

CALIFORNIA

AMERICAN BEE JOURNAL



22-Acre White Clover Field in Iowa.



Apiary of John P. Coburn—See page 71

Calif State Library dec11
Sacramento, Calif



American Bee Journal



PUBLISHED MONTHLY BY
GEORGE W. YORK & COMPANY
117 N. Jefferson Street, Chicago, Ill.

IMPORTANT NOTICE

THE SUBSCRIPTION PRICE of this Journal is \$1.00 a year, in the United States of America (except in Chicago, where it is \$1.25), and Mexico; in Canada, \$1.10; and in all other countries in the Postal Union, 25 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec 11" on your label shows that it is paid to the end of December, 1911.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your address-label, which shows that the money has been received and credited.

Advertising Rate, Per Agate Line, 15c.

14 lines make one inch.

Nothing less than 4 lines accepted.

DISCOUNTS:

3 times 14c a line 9 times 11c a line
12c 12 (1 yr.) 10c a line

Reading Notices, 25 cents, count line.
Goes to press the 6th of each month.

National Bee-Keepers' Association.

(Organized in 1870.)

Objects.

1. To promote the interests of bee-keepers.
2. To protect and defend its members in their lawful rights as to keeping bees.
3. To enforce laws against the adulteration of honey.

Membership Dues.

One dollar a year.

Officers and Executive Committee.

President—GEORGE W. YORK, Chicago, Ill.
Vice-President—W. D. WRIGHT, Altamont, N. Y.
Secretary—E. B. TYRRELL, 230 Woodland Ave., Detroit, Mich.
Treas. and Gen. Mgr.—N. E. FRANCE, Platteville, Wis.

Twelve Directors.

Jas. A. Stone, Rt. 4, Springfield, Ill.
O. L. Hershisier, Kenmore, N. Y.
H. A. Surface, Harrisburg, Pa.
Wm. McEvoy, Woodburn, Ont., Canada.
M. H. Mendleson, Ventura, Calif.
R. C. Aikin, Loveland, Colo.
R. L. Taylor, Lapeer, Mich.
E. D. Townsend, Remus, Mich.
W. H. Laws, Beeville, Tex.
J. E. Crane, Middlebury, Vt.
E. F. Atwater, Meridian, Idaho.
R. A. Morgan, Vermilion, S. Dak.

Are you a member? If not, why not send the annual dues of \$1.00 at once to Treas. France, or to the office of the American Bee Journal, 117 N. Jefferson St., Chicago, Ill.? It will be forwarded promptly to the Treasurer, and a receipt mailed to you by him. Every progressive bee-keeper should be a member of this, the greatest bee-keepers' organization in America.

SUPERIOR BEE-SUPPLIES

Specially made for Western bee-keepers by
G. B. Lewis Co. Sold by
Colorado Honey-Producers' Association,
DENVER, COLO.

Untested Italian Queen-Bees

Our Standard-Bred

**6 Queens for \$4.50 ; 3 for \$2.50 ;
1 for 90 cents.**

For a number of years we have been sending out to bee-keepers exceptionally fine Untested Italian Queens, purely mated, and all right in every respect. Here is what a few of those who received our Queens have to say about them:

GEORGE W. YORK & Co.:—The two queens received of you some time ago are fine. They are good breeders, and the workers are showing up fine. I introduced them among black bees, and the bees are nearly yellow now, and are doing good work.
Nemaha Co., Kan., July 15.

A. W. SWAN.

GEORGE W. YORK & Co.:—After importing queens for 15 years you have sent me the best. She keeps 9 1-2 Langstroth frames fully occupied to date, and although I kept the hive well contracted, to force them to swarm, they have never built a queen-cell, and will put up 100 pounds of honey if the flow lasts this week.
Ontario, Canada July 22.

CHAS. MITCHELL

GEORGE W. YORK & Co.:—The queen I bought of you has proven a good one, and has given me some of the best colonies.
Washington Co., Va., July 22.

N. P. OGLESBY.

GEORGE W. YORK & Co.:—The queen I received of you a few days ago came through O. K., and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days. She was accepted by them, and has gone to work nicely. I am highly pleased with her and your promptness in filling my order. My father, who is an old bee keeper, pronounced her very fine. You will hear from me again when I am in need of something in the bee-line.

E. E. McCORM.

Marion Co., Ill., July 13.

We usually begin mailing Queens in May, and continue thereafter on the plan of "first come first served." The price of one of our Untested Queens alone is 90 cents, or with the old American Bee Journal for one year—both for \$1.60. Three Queens (without Journal) would be \$2.50, or 6 for \$4.50. Full instructions for introducing are sent with each Queen, being printed on the underside of the address-card on the mailing-cage. You cannot do better than to get one or more of our fine Standard-Bred Queens.

George W. York & Co.,

Chicago, Ill.

Please mention Am. Bee Journal when writing.

STRAWBERRY PLANTS

200 ACRES OF THEM. I GROW NOTHING ELSE.

I do not run a nursery—or seed business. I devote all my time to Strawberry Plants. I personally superintend my farm. Every plant guaranteed "true to name." Plants grown in Natural Strawberry Climate; soil right, too. Strong rooted, prolific bearers. Prices right. Get my 1911 Catalog. Write to-day.—NOW.

W. W. THOMAS, The Strawberry Plant Man 152 Main St., Anna, Ill.



Please mention Am. Bee Journal when writing.

13 1/2 Cents a Rod

For 18-in. 14 3/4-c for 22-in. Hog Fence; 15c for 26-in.; 18 3/4-c for 33-in.; 25c for 47-in. Farm Fence, 48-in. Poultry fence 28 1/2-c. Sold on 30 days trial. 80 rod spool Ideal Barb Wire \$1.45 Catalogue free.

KITSELMAN BROS.,
Box 85 MUNCIE, IND.

Please mention Am. Bee Journal when writing.

Now for 1911 Bee-Supplies

We have already received several carloads of that "finest of all Beeware"—**FALCONER MAKE**—anticipating the heavy rush of orders sure to come this spring. Prepare yourself NOW, Brother, for we are going to have a Heavy Honey-Yield this season, and those who order early are the ones who will profit most. Send for Catalogue TODAY, and see our "MUTH SPECIAL" Dovetailed Hive, and also our "IDEAL METAL" Cover—both DANDIES. We sell you cheaper than the rest; we have the BEST. Let us figure on your wants—we will surprise you.

The FRED W. MUTH CO.

"THE BUSY BEE-MEN"

51 Walnut Street, CINCINNATI, OHIO

Please mention Am. Bee Journal when writing.

American Bee Journal

M. H. HUNT & SON

The best time to buy your goods is during the fall and winter months. We are making **Liberal Discounts for Early Orders**, and would like to quote you **net prices** on your needs for next season.

—BEEWAX WANTED—

LANSING, - MICHIGAN.

Please mention Am. Bee Journal when writing.

ROOT'S : GOODS

For Western Pennsylvania.

Liberal Early Order Discounts.
Gleanings and Choice Queens **Given Away**.
Write at once for Circular. Time is limited.

GEO. H. REA,

Successor to Rea Bee and Honey Co.,

REYNOLDSVILLE, PA.

Bee-Keepers

Here is a bargain in No. 2

4 1/4 x 4 1/4 1-Piece 2-Bee-way Sections
\$3.25 per 1000. Plain, 25c less.

Send your order to-day. Also write for Catalog. 1Atf

AUG. LOTZ & CO.,

BOYD, WIS.

Please mention Am. Bee Journal when writing.

Are You Looking for a Bargain? If so, here it is:

100 Colonies of Bees, 8-frame, 1 1/2-story hives, in good shape for winter. No disease. All go for \$300.00, or in lots of 10 at \$3.00 per colony. Bees near Argenta, Ark. Don't let this chance slip. **It is a bargain.** 1Atf

W. J. Littlefield, Little Rock, Ark.

TRUTH ABOUT POULTRY.—It is in "The Million Egg Farm," a book of verified poultry facts. Get it and Farm Journal nearly 2 years, 50 cents. **FARM JOURNAL,**
1Atf 101 Clifton St., Philadelphia, Pa.

Honey and Beeswax

When Consigning, Buying,
or Selling—Consult

R. A. BURNETT & CO.

199 S. Water St., CHICAGO, ILL.

Please mention Am. Bee Journal when writing.

Closing Out Offer

We Have Some Copies Left of the Book

"Bees and Honey"

By Thomas G. Newman

bound in cloth, that we offer cheap to close out. It contains 160 pages, and is bound in cloth. It used to be a one-dollar book, but we will mail them, so long as they last, at 50 cents each; or with the American Bee Journal one year—**both for only \$1.20.** Surely this is a bargain. The book is well illustrated, and has some good information in it, especially for beginners. Address all orders to

George W. York & Co.,
146 W. Superior St., Chicago, Ill.

Sections at \$3.50 a 1000

We are making this big sacrifice in price to move a lot of 500,000 we have in our warehouse. These are the regular one-piece 4 1/4 x 4 1/4 x 1 1/2 two-beeway Basswood Sections. They are No. 2 quality, and listed at \$5.00 per 1000. **Send in your orders now, before they are sold out.**

Our Shipping-Cases

are recommended by the largest honey-buyers in the country. Covers and Bottoms are one piece; everything is Basswood, smooth on both sides, no-drip sticks or corrugated paper in bottom. We make these to fit any number or size of sections. We have on hand a large stock to hold 24 sections, which we offer complete with paper and 2-inch glass at \$13 per 100; Crates of 50, \$7.50; Crates of 25, \$4.00.

Write for Catalog and prices on Hives, Frames, Foundation, or anything you need in the apiary.

Minnesota Bee-Supply Co.

Nicollet Island

MINNEAPOLIS, MINN.

A WONDERFUL FARM TOOL

CLARK'S DOUBLE ACTION CULTIVATOR AND HARROW. The most wonderful farm tool ever invented. Two harrows in one. Throws the dirt out, then in, leaving the land level and true. A labor saver, a time saver, a crop maker. Perfect centre draft. Jointed pole. Beware of imitations and infringements. Send today for **FREE Booklet, "Intensive Cultivation."**

CUTAWAY HARROW CO.
913 Main St., Higganum, Conn.

Please mention Am. Bee Journal when writing.

BARNES' Foot-Power Machinery

Read what J. I. PARKER, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter, 50 chaff hives with 7-in. cap, 100 honey-racks, 500 brood-frames, 2,000 honey-boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

Address, **W. F. & JOHN BARNES,**
906 Ruby St., Rockford, Ill.

50,000 Copies "Honey as a Health-Food" To Help Increase the Demand for Honey

We have had printed an edition of over 50,000 copies of the 16-page pamphlet on **"Honey as a Health-Food."** It is envelope size, and just the thing to create a local demand for honey.

The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last is devoted to "Honey Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey as a food, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 90 cents; 100 copies for \$1.50; 250 copies for \$3.00; 500 for \$5.00; or 1000 for \$9.00. Your business card printed **free** at the bottom of front page on all orders for 100 or more copies.

Address all orders to

GEORGE W. YORK & CO.,

Chicago, Ill.



Hardy "Blizzard Belt" Giant Strawberry Plants FREE

Everybody likes fine strawberries, and to prove that our new GIANT variety is the largest and strongest grower, as well as the heaviest fruiter, we offer to send you **TWO PLANTS** (worth 30 cents) absolutely **FREE**. We have picked 12 quarts of fine berries from a test bed grown from but two GIANT plants set the year before. You can do as well, and at the same time raise young plants for a new bed. If you care to send 10 cents for mailing expense, we will add 6 **BABY EVERGREENS** 2 years old, and send all to you at proper planting time in the spring. It will pay you to get acquainted with our **"HARDY BLIZZARD BELT"** Trees and Plants. Write to-day and we will reserve the plants for you and send you our catalog by next mail. Address

THE GARDNER NURSERY CO., Box 337, Osage, Iowa



Please mention Am. Bee Journal when writing.

Lewis Beeware Always Near You !

16 Carload Distributing Houses West of the Mississippi.

6 Carload Distributing Houses East of the Mississippi.

4 Carload Distributing Houses in the South.

Notice to Texas Bee-Keepers :

The Southwestern Bee Company, 420 Flores St., San Antonio, is now carrying a large stock of Lewis Beeware, together with a complete line of Honey-Cans and Foundation. They can make prompt delivery. Quotations promptly and cheerfully furnished.

Distributing Houses for Lewis Beeware.

ALABAMA—Demopolis—Wm. D. Null.
BRITISH ISLES—Welwyn, England—E. H. Taylor.
COLORADO—Denver—Colo. Honey-Producers' Ass'n.
" Grand Junction—Grand Junction Fruit Growers' Association.
" Delta—Delta Co. Fruit Growers' Ass'n.
" Rocky Ford—A. Lehman.
" Montrose—Robert Halley.
" De Beque—Producers' Association.
FRANCE—Paris—Raymond Gariel.
GEORGIA—Cordele—J. J. Wilder.
ILLINOIS—Chicago—Arnd Honey & Bee-Supply Co., 148 W. Superior Street.
" Hamilton—Chas. Dadant & Sons.
INDIANA—Indianapolis—C. M. Scott & Co., 1004 East Washington Street.

Send to the Nearest one as noted below.

IDAHO—Lorenzo—Alma Olson.
" Nampa—Nampa Grain & Elevator Co.
" Twin Falls—Darrow Bros. Seed & Supply Co.
IOWA—Davenport—Louis Hanssen's Sons.
" Le Mars—Adam A. Clarke.
" Emmetsburg—H. J. Pfiffner.
MICHIGAN—Grand Rapids—A. G. Woodman Co.
MISSOURI—Kansas City—C. E. Walker Mercantile Co.
OHIO—Peebles—W. H. Freeman.
OREGON—Portland—Chas. H. Lilly Co.
PENNSYLVANIA—Troy—C. N. Greene.
TENNESSEE—Memphis—Otto Schwill & Co.
TEXAS—San Antonio—Southwestern Bee Co.
UTAH—Ogden—Fred Foulger & Sons.
WASHINGTON—Seattle—Chas. H. Lilly Co.

A "falcon" THERMOMETER

With Your Bee - Supplies

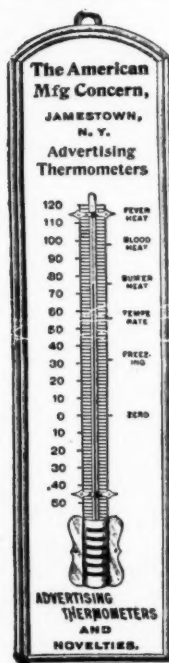
To introduce our three new carload distributing points, a Thermometer is included with first orders of a certain size.

C. C. CLEMONS BEE-SUPPLY CO.,
130 Grand Ave., Kansas City, Mo.

ROSS BROS. CO.,
90 Front St., Worcester, Mass.

W. T. FALCONER MFG. CO.,
117 N. Jefferson St., Chicago, Ill.

Write them for particulars and a copy of our "Red Catalog."



Order "falcon" Bee-Keepers' Supplies

From Your Nearest Dealer

The Fred W. Muth Co., 51 Walnut St., Cincinnati, Ohio.

Deroy Taylor, Lyons, Wayne Co., N. Y.
Cull & Williams Co., 180 Washington, St., Providence, R. I.

Hudson Shaver & Son, Perch River, Jefferson Co., N. Y.

A. M. Applegate, Reynoldsville, Penn.
Clemons Bee-Supply Co., 2d and Grand Ave., Kansas City, Mo.

J. R. Rambo, Collingdale (near Philadelphia), Penn.

Branch, W. T. Falconer Mfg. Co., 117 No. Jefferson St., Chicago, Ill.

Ross Bros., 90 Front St., Worcester, Mass.
J. J. Wilder, Cordele, Ga.

Many other dealers in this country handle our Goods, and they can be purchased in nearly every country on the Globe. Write for name of your nearest dealer.

W. T. FALCONER MFG. CO.

117 N. Jefferson St., CHICAGO, ILL.

Factory : FALCONER, N. Y.



(Entered as second-class matter July 30, 1907, at the Post-Office at Chicago, Ill., under Act of March 3, 1879.)

Published Monthly at \$1.00 a Year, by George W. York & Company, 117 North Jefferson Street,

GEORGE W. YORK, Editor.
DR. C. C. MILLER, Associate Editor.

CHICAGO, ILL., MARCH, 1911

Vol. LI--No. 3

EDITORIAL



COMMENTS

Reciprocity With Canada

The tariff on honey brought from Canada into the United States is 20 cents a gallon. The Canadian tariff on United States honey is 3 cents a pound. If 12 pounds are figured in a gallon, 20 cents a gallon is equivalent to 1⅔ cents a pound. If 2 bee-keepers live on opposite sides of the line within a mile of each other, the Canadian has 1⅓ cents the advantage over his yankee neighbor. Suppose Jones, the Canadian, brings honey across the line, and sells it at 10 cents a pound. The tariff being deducted, he will net 8⅔ cents a pound net. If Smith, on the United States side, sells north of the line at 10 cents, the 5 cents tariff will make his honey net him 7 cents.

If the efforts of President Taft and Secretary Knox prevail, it will not be so very long before this will be changed and honey will pass free of duty from one country to the other.

Size of Honey-House

It is a little difficult to decide upon the best size for a cellar and bee-house, but this much I do know, that I never heard a bee-keeper complain that his honey-house was too large—I have often heard him complain of lack of room. For an apiary of 100 colonies I think a house 24x16 would be none too large, and I would have an attic or upper story at that. About 14 feet is sufficient height.—*Bee-Keepers' Review*.

All of which is good; but might it not go just a trifle farther? With "more bees" constantly dinged into his ears, how does the owner of 100 colonies know he will never go beyond that number? A house 24x18 feet will hold ⅓ more than one 24x16, without costing ⅓ more. Still less in cost will be added by increasing the height. If the building be 14 feet high, one or both stories will be less than 7 feet high. A foot or more higher than that will be very convenient very often to pile high supers and other things, the convenience greatly overbalancing the cost.

A Beeswax Explosion

About a pound and a half of wax being heated in a deep wash-dish over an ordinary stove. The dish had a rounding bottom, was about a foot in diameter at the top, and perhaps 6 inches deep. The melted wax occupied not more than 1½ inches space at the bottom of the dish. When fine bubbles of wax commenced coming to the top, showing that the boiling-point had nearly been reached, about half a pint of water from a tea-kettle was poured in, the idea being to cool the wax and prevent it from boiling. Without any warning, however, there was a sudden explosion, all the hot water and wax being thrown violently into the face of the one who was performing the experiment; and, as the wax had to be scraped off with a knife, it caused some quite severe burns before it cooled.

Now, did this wax, like nitro-glycerin or gunpowder, simply explode of its own accord? There was no exposed flame or fire at any time, and, fortunately, nothing caught fire afterward. Our explanation of the trouble is as follows: Wax boils at a much higher temperature than water; hence, although the wax in the dish on the stove had not quite reached the boiling-point, its temperature must have been considerably above the boiling-point of water. When the hot water from the tea-kettle was poured in, its tendency was to go to the bottom of the dish because the wax is lighter; but the high temperature immediately volatilized the water; and as the steam had no exit except through the wax, it fairly lifted the whole contents of the dish into the air.—*Gleanings in Bee Culture*.

It is well that this warning is heeded. The result would likely not have been the same if cold water had been poured in, instead of hot water from the tea-kettle, but the safer way would be to have at least some water in the bottom of the vessel before allowing the wax to be heated above the boiling point of water.

Disinfection of Hives

D. M. Macdonald says in the British Bee Journal regarding disinfection of hives that have contained foul brood: "The McEvoy treatment is an effective cure when properly carried out. That includes disinfection."

Mr. Macdonald is too intelligent to think that Mr. McEvoy advocates disinfection, and too honest to misrepresent.

But for once he has been unfortunate in expressing himself. The McEvoy treatment emphatically does not include disinfection, and Mr. Macdonald's idea probably is that an effective cure of foul brood may be secured by the McEvoy treatment *plus* disinfection.

Bees Carrying Eggs

Every now and then a report is made that bees have carried an egg from one cell to another. W. Abram, editor of the Australian Bee Bulletin is very certain that not one of these reports is reliable, for the simple reason that it is an impossibility for a bee to do anything of the kind, and he establishes that impossibility in this way:

When the bee lays an egg it is coated with a glue-like substance, which makes the egg adhere to the bottom of the cell. It very soon hardens, and once hard nothing but the use of a paste-brush or such-like utensil can make it stick in another cell, not to mention that the shell of the egg may be damaged if removed from its place of deposit in the cell. Now, as the bees have no means of fastening the egg to the bottom of the cell, they can not transfer them from one to another.

This seems quite conclusive; for if a thing is impossible it can not very well be done. But it would not be strange if some who think that bees carry eggs should reply somewhat in this strain:

"How does Mr. Abram know that when the glue-like substance hardens it can never be softened again? It is the drying out that hardens it, and if it is moistened why will it not be soft again? And if bees can moisten candy, why can they not moisten a glue-like substance?"

Breeding for Improvement in Bees

In a letter I have received from E. S. Miles, he says:

Pardon me if I tell you where I think you made a mistake in breeding your bees in times past? I may be mistaken, but I believe one should avoid hybrids for breeders. I believe instead of breeding from the colony that gives you the greatest yield, you would do better to select the best of your pure—or as near as one can judge pure—stock.

My experience and observation lead me to think that the progeny of mixed or grade stock of all kinds is rather variable and uncertain. And so I think that if we find most of the desirable qualities in a pure stock of bees, they are more apt to transmit them than a mixed stock. And, further, it seems

American Bee Journal

to me we must select *one* chief characteristic if we want to improve our bees in that line. For instance, unless I am mistaken, you selected first for honey-gathering, and improved your bees in that line, but got cross bees on account of sacrificing everything for honey-gathering abilities. So I believe I could have practically non-swarmers today if I had put that trait first, regardless of any others.

But after you get your bees improved in one trait, why not, without letting them retrograde in that direction, select for another desirable trait in addition? E. S. MILES.

I have more than once said that if I had it to do over again I would breed from pure Italian stock, the reason for that being that by so doing I would have better-natured bees. Mr. Miles offers another reason for it that is well worth considering. It is that a pure breed is less given to variation, and so likely to transmit the good qualities desired. That is no doubt true. And yet is not variation the very thing we sometimes want? If there were no variation, would improvement be possible?

I am not a scientist, only a bee-keeper, and in talking about such things may easily get beyond my depth; but I'd like the chance to ask some questions with the privilege of having them answered by a thorough scientist who knows all about the matter of breeding for improvement. With the variations that come with hybrids, it so happens that I have had among them better storers than among pure stock. Others have had the same experience; notably J. E. Crane. But this superiority is not so certainly bequeathed to future generations as it is by pure stock. It will take more effort to fix the type with this variable stock than with pure stock. Now the question I want to ask is this: Admitting that it is harder to hold hybrids to the mark than pure stock, may it still not be possible that with the greater variation of hybrids I may get stock enough better so that the goal may be reached with them sooner than with pure blood?

The interesting question as to whether it is better to work for only one trait at a time is one I would like to see answered. On the face of it, it would look as if the answer should be in the affirmative. And yet I don't know. Suppose we want to work for gentleness and also for industry. We may select the best workers to breed from, and when we have a settled strain of extra-storers breed the ill-temper out of them. Or, we may select the best-tempered stock, without paying any attention to the crops gathered, and after getting a strain with angelic tempers, then pick for the best storers. While working for one of these traits, might it not be as well to pay at least a little attention to the other?

C. C. MILLER.

Long-Tongue Bees — and Other Things

On page 384 (1910), Mr. Byer asks some questions that seem to be directed to me, which I will try to answer, at least in part. Indeed, some of them practically covers the whole ground, and I hardly need answer anything else. Mr. Byer says:

"One of the most essential parts of the bee's anatomy, no doubt of uniform size nearly all down through the centuries, has in the course of a few months by some mar-

vellous, mysterious methods, been lengthened so that their proud owners could go poking into pastures that have been forbidden to their less fortunate predecessors for ages past."

Then comes the question: "Is not the mere assumption of such a possibility ridiculous, when we consider the matter seriously?" To that I answer unhesitatingly that to me there does not appear anything in the least ridiculous about it.

That answers the question, providing my opinion may be taken in the matter, but it would be just like you, Mr. Byer, to insist on knowing why I should have such an opinion. I'd just as soon tell you as not. You say, "no doubt of uniform size nearly all down through the centuries." Don't you know that able men who were entirely disinterested have measured the tongues of bees, and have told us that they are *not* of one size? But never mind that now.

Ever do much with roses, Mr. Byer? Lots of fun in it. Perhaps you know Jules Margottin, a hybrid remontant rose that made no pretensions to growing to an unusual height. Well, one day, not "in the course of a few months," but in the course of not many days, "by some marvelous, mysterious" force, a branch of one plant shot away above its fellows, and presto! there was the climbing Jules Margottin, which so competent an authority as H. B. Ellwanger commends highly as a pillar rose.

There's Baroness Rothschild, a rose of exquisite pink color. One year when I had one of my biggest crops of honey, G. Paul found on a Baroness Rothschild a bloom that was pure white, and since then you will find cataloged White Baroness.

Sports, of course. And I suppose I need not tell you that there are sports in the animal kingdom as well, although it is no doubt harder to perpetuate a sport in the animal world. Indeed, in a sense there would be no such a thing as improvement in our domestic animals were there no variation from the normal type, and that variation is what we call sport, when it is sudden and spontaneous. Indeed, you state the case very nicely, when, admitting a difference in measurement of tongues, you say, "I do believe most firmly that anything out of the ordinary was in the nature of a sport." To that you immediately add, "and that in few if any colonies was this characteristic perpetuated." And in that view I am entirely with you. After a few generations the characteristic faded out, or as Editor Root insists, there was the strong tendency to reversion to type, although he especially emphasizes it when referring to non-swarming. That, however, is a matter aside. It is not a question, just now, of the perpetuation, but of the possibility of such a variation as will allow one colony of bees all at once to have tongues of unusual length.

And now, Mr. Byer, let me, in turn, ask you a question. In view of pink suddenly turning white, and of the many changes that have occurred in the animal kingdom, do you think, when we consider the matter seriously, that there is anything ridiculous in the assumption of the possibility of finding a colony of bees with tongues so long

"that their proud owners could go poking into pastures that have been forbidden to their less fortunate predecessors for ages past?" And if a man should find such a colony, do you think there is anything wrong in his saying so, whether he says it in private conversation or in an advertisement? And if he should say it in an advertisement, do you think you have a right to fling "humbug" at him, or class him a Karo man?

You say, "Not so very long ago the bee-papers were full of advertisers who claimed to have the genuine article, in so far as long tongues are concerned, and if it was the real thing they had, why the absence of said advertisements now?" Simply because they don't have them now. But that doesn't prove they didn't have them formerly. Like enough, too, when the bee-papers were full of advertisers, there were some who were not warranted in advertising, as is generally the case when anything new comes up, but does that justify classing all advertisers as humbogs?

You got of different breeders what were claimed as extra-long tongues, and you say, "so far as I could tell by close observation, not one of the claims was verified." Could you tell very much about it by close observation? You say they worked on red clover, and so did others. Are you ready to take your solemn "affidav" that there were not 10 percent more of the long-tonguers in proportion to their numbers? Would you swear there were not 50 percent more? "So far as you could tell." But how far could you tell? Even suppose that there was not the slightest difference, and that the men you bought from were arrant scoundrels, does that leave it impossible that there could be any honest advertiser?

Working backward I now come to your first question. Shouldn't I "know better than to try to stir up mischief" in this way? Just so far as concerns long tongues, yes. It's not important enough. There have been tongues of unusual length, and will be again, and if sufficient pains were taken I don't see why it might not be made a permanent characteristic. But I don't believe it's worth while so long as we can more surely work at the other end and change the clover.

But there is involved another matter of vast importance. It is the whole matter of improvement in bees. I believe there are possibilities in that direction that few have dreamed of. I believe that every bee-keeper in the land may do something in that direction. And when any man arises to say, "Oh, you can't change anything in bees; they've always swarmed and always will; length of tongue is a fixed quantity; and the man who thinks he has stumbled on an improvement is a humbug," I want to stir up mischief for that man, and the better man he is the more mischief I'd like to make for him. So there now! C. C. M.

Bee Journal Saved Her \$25

From following the instructive reading in the American Bee Journal for the year 1910, I have saved \$25 on my bees.

Mrs. A. A. GOOD.
Arlington, Wash., Dec. 17, 1910.

MISCELLANEOUS



NEWS ITEMS

Our Front Page Pictures.—The upper picture on the first page of this copy of the American Bee Journal shows a 22-acre white-clover field belonging to Edw. H. Roth, of Strawberry Point, Iowa. It would be interesting to know just how many pounds of honey the blossoms of such a field would yield in one season. Perhaps Mr. Roth will tell us something about the results he gets from his bees.

Apiary of John P. Coburn

Referring to the lower picture on the front page, Mr. Coburn writes as follows:

You will notice in the foreground a hive with the winter-case which I will describe. It is made to take 1-inch packing of cork-dust on the sides, 2 inches on the back end, and 1 inch on the front end; you will see how I let the cork-dust run out. A piece of board $\frac{3}{4}$ thick, 3 inches wide, is shoved in between the bottom-board of the hive and the stand, which, when properly in, holds it in place and keeps the cork-dust in. When it gets warm enough the cork is removed by lifting or prying enough with the hive-tool to liberate this piece, and the cork runs out into a box made to receive it. I find by packing in this way that I seldom lose a colony in wintering.

I have done nothing the last 11 years but work with the bees, and I shall be 78 years old if I live until March, 1911. I make my home with my only son at Woburn, Mass., where my apiary is located.

I sell quite a lot of bees to go into cucumber hot-houses every spring. Last spring I sold out of my apiary 10 colonies for \$145.50. Also several sent to me from Amherst, N. H.

I packed for winter in my apiary 51 colonies, and I intend to return to Woburn about the middle of March, as that is about the time the sale of bees commences for the cucumber hot-houses. There is a great quantity of bees used for that purpose in the vicinity of Boston. JOHN P. COBURN.

Bee-Keeping in China.—In the Daily Consular and Trade Reports for Feb. 16, 1911, under "Chinese Trade Notes," from Consul General Leo Bergholz, of Canton, China, appears this paragraph:

The industrial taotai of Canton has given his sanction for the establishment of a company here for rearing bees and manufacturing commercial honey. This marks the introduction of a new industry among the Chinese which may develop to large proportions. Foreign honey has found a ready sale in this country, but little native honey has yet appeared on the market.

No doubt "manufacturing commercial honey" is the consul's way of saying that the honey will be produced by the bees. Surely there must be a big field in China for both the production and consumption of honey.

Two Little Corrections.—In the article by Messrs. Hildreth & Segelken, in our February issue, in the last paragraph on page 45, where they advise New York and Pennsylvania bee-keepers "to produce extracted buckwheat instead of comb," it should read, "to produce more extracted buckwheat instead of comb."

Also, at the top of the first column on page 46 of the same article, where the heading reads, "No. 1 White Comb Honey (So-Called)," it should read, "No. 2 White Comb Honey."

Short Course in Apiculture.—A short course for apiary instructors will be held at the Ontario Agricultural College, Guelph, Ont., Canada, May 1 to 6, 1911, for students and ex-students who have taken lectures on apiculture and wish some more advanced practical and scientific work to put them in the way of becoming trained apiary instructors. It is also open to bee-keepers who have gained their elementary knowledge in a more practical way.

The list of speakers includes the following: Morley Pettit, Provincial Apiarist; Prof. S. F. Edwards, Dr. E. F. Phillips (of Washington, D. C.), Prof. R. Harcourt, Prof. C. A. Zavitz, and Prof. H. H. LeDrew.

A copy of the program, which contains a full list of speakers and subjects to be discussed, may be had by applying to Mr. Morley Pettit, Provincial Apiarist, Guelph, Ont., Canada.

Apiarian Insurance in Austria.—An enterprising company in Austria insures bee-keepers against loss by fire, winds, floods, avalanches, damage to bees generally, even by theft by human bipeds, and losses caused by disease. The yearly assessment is only about one cent per colony of bees. I would not mind having my bees insured in that company, but I am afraid they would not accept foreign bees. Almost each year I lose some honey in out-yards by thieves. A year ago I gave them some honey before they got around to steal it. That time they let my bees alone. The past season they took the sections out of several supers and closed up the hives again, which was very clever, but cost me \$10.—F. GREINER.

Denatured Sugar for Bees.—Austrian bee-keepers are feeding denatured sugar to their bees now. It is cheaper than ordinary sugar, in as much as the Austrian government does not levy any tax on it, the same as on denatured alcohol. This sugar is especially designed for feeding to bees, and is mixed with sand and sawdust to prevent its being used for human food. The "Bienenvater," Wien, Austria, says that some of their bee-keepers have fed this sugar, sand, sawdust and all, whereas they advise to strain the syrup made from it through a cloth. I do not think this is necessary; the bees will strain it themselves. Some kind of feeders might not work well when sand or sawdust is left in the syrup.—F. GREINER.

The Bee's Reason for Living.—"The house-fly is a carrier of disease; the spider seeks poison; but the bee has but one object in life—the transportation of argosies of golden sweetness from the wild world of Nature to the ceiled dining-rooms of civilized men."—EVERETT M. HILL, in "The Story the Crocus Told."

Bee-Keeping in South America.—An International Exposition of Agriculture was held in Buenos Ayres, S. A., in 1910. It is wonderful how little North America knows about South America and the progress of that country, and *vice versa*. Mr. C. P. Dadant sends in the following, which is of interest:

I find in the "Abeille De L'Aisne," France, a report of the apiarian exhibit at the International Exposition of Agriculture, in Buenos Ayres, in 1910. The countries represented in the exhibit of honey, beeswax, metheglin, etc., were Argentine Republic, Chili, Paraguay, Italy, and France. Thus two countries of Old Europe had an exhibit in a South American republic exposition, of which we in the United States did not even have notice.

The Argentine Republic had on exhibition honey, beeswax, honey-vinegar, mead, bee-hives, and other apiarian supplies. The report concerning that exhibit is not very favorable, for it is said that most of the honey on exhibition was of an inferior quality with very few exceptions. It appears that most of the exhibit was made by the Rural Argentine Association.

Chili had 14 exhibitors of honey and 7 of beeswax. The exhibit was good, the honey being of very good quality and well put up.

Paraguay had but 2 exhibitors, with a fine lot of honey and beeswax.

Italy had but one exhibit, but the honey of this lot was fine enough to draw a first prize.

France had 22 exhibitors, under the management of Mr. Laurent-Opin, of Laon, France, who had made the trip for that purpose.

The French exhibitors carried away 54 prizes or diplomas at this Exposition.

Is it not time for the United States to pay a little more attention to what is going on in South America, and take an interest in its affairs? We correspond with Europe, and deal with the German and English speaking races, but our American cousins of the Southern Hemisphere are entirely disregarded by us. The Pan-American interests need to be looked into in bee-culture as well as in other things. C. P. DADANT.

Hamilton, Ill.

A Bee-Keeper.—The following morsel appears in the German bee-journal, *Praktischer Wegweiser fuer Bienen-zuechter*:

"The largest bee-keeper in the world is Harrison of California, who has 6000 colonies of bees, and produces annually 220,000 pounds of honey."

The writer of that paragraph probably gave it in all good faith, but it would be interesting to know upon what foundation such an immense superstructure was built. The Harrison who has done such great things has certainly kept very quiet about it; but probably the veteran Harbison of California is meant, who at present has few if any bees; but did he ever reach 6000 colonies? We think he had less than 4000 colonies as a maximum number.

The modest thing in the story is the yield of honey. That 220,000 pounds makes the average for the 6000 colonies not quite 37 pounds per colony. Why not have the average per colony 200 pounds, and make the annual crop 1,200,000 pounds?

Aluminum Honey-Comb.—It is reported in *Praktischer Wegweiser* that combs are now made of aluminum, being no heavier than natural combs, which are promptly occupied by the bees for brood-rearing and storing. Some time ago metal combs were in use to a limited extent in this country, but we have heard nothing about them lately. The lightness of aluminum would seem to be a gain.

American Bee Journal

To Pennsylvania Bee-Keepers.—The following is for you. Please read, and then heed:

PENNSYLVANIA BEE-KEEPERS, LISTEN!

At the last annual convention held in Philadelphia last fall, a committee was appointed to draft a Foul Brood Bill and present it to the legislature. The bill was drawn up and presented to both the State Horticultural Society and the State Board of Agriculture, which were in session in Harrisburg at the time. They sent the bill to their respective legislative committees, which reported them back favorably, after which it was endorsed by each body.

The bill was then placed in the hands of Representative Hibbsman, who introduced it in the House. Mr. Hibbsman is the Chairman of the Committee on Agriculture in the House. The bill was carefully drawn and everything possible so far has been done to facilitate its passage.

We want every bee-keeper in Pennsylvania to write to his Representative and Senator who are now at Harrisburg, and urge them to vote for this bill. If you do this every member in the legislature will receive a number of letters, and will see the importance of this legislation. We attempted to have a law passed twice before, and failed for some reason or other. Let us win out this time.

Dr. Phillips, of the Bureau of Entomology, Washington, D. C., reports that samples of American foul brood have been sent to him from 18 counties, and European foul brood from 20 counties out of the 67 in this State. A number of counties have not been heard from. This is sufficient evidence for alarm. If we fail to have State inspection, the disease is bound to wipe out our industry. Now is the time to get busy. Write. As soon as you have read this, write a letter to your representatives in each House, and tell them to support the bill.

Liverpool, Pa.

H. C. KLINGER.

It may be too late by the time the above is published, for the letters to do any good. Perhaps it would be well to drop a postal card to Mr. Klinger and find out, before writing to the members of the legislature.

"Bee-Keepers' Gazette."—The first number of this new candidate for favor among bee-keepers is to hand. It has the same editor and publisher as the Irish Bee Journal, and to some extent the same contents. The Gazette, however, will endeavor to cater to the wider circle. It is gotten up in the same fine style as the Irish Bee Journal; which is saying much for it.

To Colorado Bee-Keepers.—The Colorado State Bee-Keepers' Association has sent out the following letter to Colorado bee-keepers:

FELLOW BEE-KEEPER:—Write your legislator!

The Colorado State Bee-Keepers' Association has a bill before the legislature, now in session, to establish a Division of Apiary Investigation and Inspection under the supervision of the State Entomologist.

The bill provides for investigations in bee-culture, such as the introduction of nectar-secreting plants, better bred bees, and improvement in the methods of bee-culture. This is a work that will prove of great value to the State—work that has never been done here, but should have been started years ago.

Impress these points on the minds of your legislators, and write them at once.

1st. Centralize the work of inspection, utilizing the machinery of the State Entomologist's office and that of the Agricultural College, and placing this equipment at the disposal of this division.

2d. It will greatly increase the wealth of the State by increasing the production of honey through the introduction of honey-plants, better bred bees, and better methods.

3d. Hundreds of thousands of dollars worth of honey are shipped from the State every year, besides the great amounts sold in the home markets.

4th. Bee-diseases are prevalent throughout

the State, and means must at once be taken for their eradication.

5th. This bill is recommended by the Department of Agriculture at Washington by the Agricultural College at Ft. Collins, and by every intelligent bee-keeper in the State.

6th. Tell all your legislators to support the "Bee-Keepers' Bill," placing the Division of Apiary Inspection and Investigation under the State Entomologist.

The Colorado State Bee-Keepers' Association is the originator of this bill, and it embraces the demands of the bee-keepers of the State.

Urging you to lose no time in writing your senator and representative on this question. I am, Yours for better bee-keeping,

Boulder, Colo. WESLEY FOSTER, Sec.

P. S.—This work takes considerable money and the Association needs the help of every bee-keeper, so send in your dollar for 1911 membership at once, and help along the various things the Association is doing to aid the bee-industry of Colorado. W. F.

As this letter did not arrive in time for our February number, it may now be too late for the requested letters to do any good. Better ask Mr. Foster before writing to the members of the legislature.

Mr. J. L. Byer, the conductor of "Canadian Beedom," was very sick in January and February. His trouble was caused by gripple, and culminated in an abscess in the right sinus—what the doctors call the depressions in the skull just back of the eyes, we believe. Mr. Byer had a very serious time of it, but he began to mend early in February, and doubtless by this time is almost as good as new again. We are very glad to report his recovery, and trust, with his hosts of friends, that he may continue in good health.

Foul Brood in the United States.—The United States Department of Agriculture sent us the following for publication on the

WORK OF DEPARTMENT ON BEE-DISEASES.

The honey-bee annually produces a crop of honey estimated at \$20,000,000, and there are vast opportunities for increasing this output. The most serious handicap to bee-keeping in the United States is the fact that there are contagious diseases which attack the brood of the honey-bee. There are now recognized two such diseases, known as American foul brood and European foul brood. From data recently obtained by the United States Department of Agriculture, it is known that American foul brood exists in 282 counties in 37 States, and European foul brood in 160 counties in 24 States, and it is estimated conservatively that these diseases are causing a loss to the bee-keepers of the United States of at least \$1,000,000 annually. This estimate is based on the probable value of the colonies which die, and the approximate loss of crop due to the weakened condition of diseased colonies. The States in which the diseases are most prevalent are California, Colorado, Illinois, Indiana, Iowa, Kansas, Michigan, Missouri, Nebraska, New Jersey, New York, Ohio, Pennsylvania, Texas, and Wisconsin, and it is unfortunate that these are the States in which honey-production is most profitable, making the future outlook of the bee-keeping industry so much the worse unless active measures are taken to control the diseases. Furthermore, the distribution of these diseases is by no means fully known, and they are constantly spreading.

The cause of American foul brood has been found by the Department to be a specified bacterium, and enough is known of the cause and nature of European foul brood (which is also a bacterial disease) to make it possible to issue reliable recommendations concerning treatment for both diseases. Both attack the developing brood, and as the adult bees die from old age or other causes, the colony becomes depleted since there are not enough young bees emerging to keep up the numbers. When the colony becomes weak, bees from other colonies

enter to rob the honey, and the infection is spread.

Both of these diseases can be controlled with comparative ease by the progressive bee-keeper, but the chief difficulty encountered in combating these diseases is the fact that the majority of bee-keepers are unaware that any such diseases exist; they, therefore, often attribute their losses to other sources, and nothing is done to prevent the spread of the infection. It is therefore necessary in most cases to point out the existence and nature of the diseases, as well as to spread information concerning the best methods of treatment. Several States have passed laws providing for the inspection of apiaries for disease, and the bee-keepers in other States are asking for the same protection, so that careless or ignorant bee-keepers can be prevented from endangering their neighbor's bees. This inspection is a benefit in the spread of information concerning disease, in so far as the inspectors can cover the territory. The Department of Agriculture is helping in this work by sending out publications to the bee-keepers in infected regions, by examining samples of brood suspected of disease, and by sending out information concerning the presence of disease, so that bee-keepers will be informed that their apiaries are in danger. The co-operation of agricultural colleges, State bee-keepers' associations, and other similar agencies is being urged.

In view of the fact that these diseases are so widespread, every person interested in bee-keeping should find out as soon as possible how to recognize and treat these maladies, and be on the lookout for them. A publication containing a discussion of the nature of these diseases and their treatment will be sent on request to the Department of Agriculture.

U. S. DEPARTMENT OF AGRICULTURE,
DIVISION OF PUBLICATIONS,
JOS. A. ARNOLD, Editor and Chief.
Washington, D. C., Dec. 6, 1910.

We imagine that few of our readers realize the extent and importance of the work the Department of Agriculture at Washington, D. C., is doing in the interest of bee-keepers. Surely the most hearty co-operation on the part of the bee-keepers themselves should be given so that the results to be obtained by the efforts of the Department may be of the largest service to the industry of bee-keeping. The Department is anxious to do its part, and without expense to bee-keepers, in whatever will be of most value and aid to bee-culture.

Shiber's Honey-Strainer.—Geo. Shiber has a plan that seems well worth trying. He says in Gleanings:

Over the top of my tank I place a sheet of wire-cloth, same as that used on windows, and tie it tightly around the top with strong cord, at the same time pressing it down in the middle. Over this I put one end of a 5-yard length of white cheese-cloth, the part not in use rolled up at the side of the tank. Warm honey will go through this rapidly when the cloth is clean, but, of course, it soon gets clogged. Just as soon as this happens we pull the cloth along, bringing a new clean surface over the tank, and then roll up the clogged portion on the other side of the tank. When one 5-yard piece is used up we put another one in its place. We never bother with the old cloth again, nor try to clean it for further straining.

Melting Injures Honey in Cappings.—W. A. Chrysler says in the Canadian Bee Journal:

All honey, when melted with cappings or comb, will take on the flavor and the color that wax, smoker-smoke, and probably other minor substances, such as travel-stain, etc., will give it. Overheating has been suggested many times as being the cause of darkening the honey and affecting its flavor. From my experience I am thoroughly satisfied that the honey will be darkened in color and changed in flavor even if not overheated.

Unless cappings can be in some way pressed cold, we may always expect capping honey necessarily to be kept separate from our other honey, and sold on its merits.

SKETCHES OF BEEDOMITES

Wesley Foster

The subject of this sketch started bee-keeping two generations before he was born, and with such a record it is not strange that he has been kept irresistibly in the straight and narrow path marked out by the honey-bee. He was early enticed to this busy worker, by testing her sweetened product at the capping-box in the extracting-room, and his joy in her service was complete when at 6 years of age he earned the munificent sum of one cent an hour for nailing section-holders! At 9 he entered the secret chamber of man's sovereignty when he hived a swarm of bees barefoot.

While going through the high school he paid most of his expenses by assisting his father in the care of the bee-yards, and at 18, in partnership with his brother, borrowed \$500 to purchase 140 colonies of bees, and paid for them the first season, with money left over for the bank account. At that time the boys were managing about 350 colonies, always running the bees for comb honey.

At the present time Mr. Foster is Secretary of the Colorado State Bee-Keepers' Association, and having ancestry, youth and ambition as his assets, there seems to be no doubt that he will do his best to make a bee-line for success in his chosen field.

MRS. WESLEY FOSTER.

[Well, that's good so far as it goes, Mrs. Foster. But you have left us to imagine a whole lot.

Mr. Foster surely has been keeping bees a long time if he has been at it "two generations before he was born!" No wonder you failed to say how old

he is; nor when he was married, etc. But, then, we have his picture, so it will not be difficult to "estimate" several things.

Mr. Foster conducts the "Far West-



WESLEY FOSTER.

ern Bee-Keeping" department of the American Bee Journal, and no doubt from time to time he will let in further rays of light upon his career, which has been so closely identified with bee-keeping for a century or more, according to Mrs. Foster's statement.—Ed.]

BEE-KEEPING FOR WOMEN

Conducted by Miss EMMA M. WILSON, Marengo, Ill.

Discouraged Through Foul Brood

I have been somewhat discouraged with the bees, as I have been trying to fight foul brood for two years. I think I have it about conquered, when it will leak out again, as there are neighbors whose bees have the disease. They do not take care of their bees, and do not know what is the matter with them.

MRS. L. MACK.

Three Rivers, Mich., Feb. 20.

Possibly you may learn to look upon foul brood as a blessing in disguise. Your careless neighbors who do not take care of their bees, and do not know what is the matter with them, are likely to be the ones who spoil your market by selling honey for away below a decent price. Sooner or later the disease will probably drive them out of business, while you can keep on

and produce crops in spite of the disease.

We don't dread foul brood as we did. To be sure, it did look somewhat discouraging to have more than half a hundred colonies on the bad list, and we surely had a time of it, but then it looked worth all the trouble when last year we got several tons of beautiful honey. Don't be in too much of a hurry to be discouraged, sister.

Bee-Stings and Color of Clothing

Difference of opinion continues as to whether bees are more likely to sting through dark than light clothing. In the nature of the case it is hard to offer proof that bees are indifferent to col-

ors. If one should have on one hand a white glove, and on the other a black one, and neither were stung, of course there would be no proof either way. If both were stung alike, it would look like proof of indifference on the part of the bees, yet still it might be said that when bees are cross enough they will sting any kind of color, dark or light. And so they will. But if the dark glove receives more stings than the white one, and that occurs not once, but at different times, it looks a good deal like proof that bees feel more antagonistic toward black than white. In this locality the proofs have appeared sufficiently strong to make it seem advisable to wear light clothing when working with the bees.

Mrs. M. E. Pruitt seems to have made good use of her powers of observation, and when she finds bees selecting the black spots of a black and white cow, and the dark chickens in a flock of dark and light ones, one can hardly blame her for thinking bees more likely to sting dark than light colors. She says in Gleanings in Bee Culture:

On one occasion we had dealings with an enraged colony, and I thought I would just pull a couple of black stockings over my hands (not being able to find my gloves at the moment) so that I could replace a couple of frames and put on the cover so that they would not so easily detect the scent of stings already received. Oh, how I wished I hadn't! They just simply covered my hands; and when I retired from the field the color of my "gloves" was changed from black to pepper-and-salt.

The year before last I was wearing a navy-blue skirt, and the bees seemed to delight in puncturing it. I changed the navy-blue for a light tan, and all was peace.

We have a Holstein cow, and every time she passes by the yard, and the bees are irritated, they invariably make for the black spots.

When we are hitching up the sorrel and the bay horse I notice they begin operations on the black mane of the bay. When we have the black horse and one of the others together, the black comes in for the most points.

Our white chickens are not molested when scratching in the yard; but the Minorcas are allowed to stay hardly long enough to locate a hunting-ground.

When bees want to sting a person they generally make for the shaded parts, such as about the eyebrows, behind the ears and in the nostrils; and, oh, what a tender spot that is!

Queen Shooing the Bees to Work

One of the 6 colonies of bees in my apiary seems to be on a continual hustle, the bees turning double somersaults on the board when alighting, they are in such a hurry to get to the hives with their cargo of honey. The queen is one I got in connection with a bee-paper, and it seems I can hear her shooing the bees out to work, telling them that their owner is a hustler herself, and that they must be the same. The other 5 colonies are not such hustlers, and will be beggars before spring.

OHIO BEE-WOMAN.

(Season of 1910.)

Foul Brood—Cause and Cure

DEAR SISTER BEE-KEEPERS:—It seems a long while since we have had a paper talk together; though I've read carefully and with much interest the doings and experiences as related in our corner.

It is certainly very pleasant to know the little items of peculiar importance in our various climates and localities that are reported, and the expedients resorted to in emergencies, and the enthusiasm and enjoy-

American Bee Journal

ment derived from our apiary work. These "experiences" have a decidedly exhilarating effect on the reader; the successes make us ache to "go and do likewise" (and, if possible—one better!). Or, if it's embarrassment and disaster, we take the lesson home and avoid it, or we are warned.

I was much exercised last season over the foul-brood problem; for the reason that our heaviest bee-man in this section has lost, and still is losing, severely from this pest. Recently I have learned that in the season of 1908 his bees began to be troubled with foul brood, and that in 1909 it began north of us, via Ogdensburg, Malone, and so on to Champlain; and toward the last of the past summer (1910) it reached us within 2 miles; so I'm shivering over my probable fate this year, and one reason for this talk is to get your advice concerning what my "ounce of prevention" is to be.

This big bee-man had nearly 400 colonies in out-yards within a radius of about 8 miles. He lost about 100 colonies in 1909 and last year less than 100 were left, and he feels sure the spring will show up a still further big deficit. Another farmer—the one but 2 miles from me—has lost his entire apiary of some 30 colonies.

I've read very carefully the December article on foul brood in the American Bee Journal, but would like to know if there is anything I can do as a prevention beyond examining the combs faithfully, and promptly stamping the disease out as soon as discovered by burning the combs or disinfecting them.

"Clovernook Apiary" has always been so healthy in all its 30 years of existence, and we had such a grand honey record last season, that it quite breaks the Mistress' heart to contemplate what she is liable to face in nastiness this year.

I have never read the cause of foul brood explained; but have supposed it due to unsanitary conditions somewhere in the neighborhood of the bees. For example, our big bee-man's home yard was near his cider-press, where the bees had access to an immense amount of all sorts of decaying pulp. We had a creamery near us where the refuse, and in fact an immense amount of all sorts of decayed matter, was dumped into our river washing the foot of Clovernook, and where our bees drank. I would like to know if unsanitary conditions do endanger bees as well as human and animal life.

Again, I've never read exactly how foul brood is disseminated, and will be glad to know if my theory as follows is correct:

I have judged that the food for the larvæ held the germ of the disease (gathered as just suggested), and death and corruption ensued. The bees crawling over the infected sections carried out into the field on their hairy legs the poison which tainted every blossom into which they crawled, for the undoing of the next bee alighting there.

Am I correct? Is this how the contagion spreads? and would it do any good to keep the entrance-boards of every hive and the combs washed with antiseptics? If so, what antiseptic would be best?

Chazy, N. Y. FRANCES E. WHEELER.

Bee-keepers in this country do not make use of any preventive measures against foul brood, unless it be to keep all colonies strong. In England it is the practice to use drugs by way of prevention. Cowan's "British Bee-Keeper's Guide-Book" says:

"Naphthaline in balls is generally used; two of these split in half being the proper dose. The pieces are placed on the floor-board of the hive in the corner farthest from the entrance. The temperature of the hive causes the naphthaline to evaporate, and it must therefore be renewed as required. All syrup used for feeding should also be medicated with naphthol beta."

But in this country it is the general belief that drugs are useless. Many here are emphatic in the belief that Italians resist the encroachments of the disease much better than blacks, and for those that have blacks or hybrids it might be said that Italianizing is a preventive measure.

Although scientists are none too well agreed as to just what particular bacillus causes the disease, all are agreed

that the disease is due to the presence of a bacillus. Without the presence of that bacillus no amount of uncleanness or unsanitary conditions can produce foul brood, any more than a field of corn-plants can be grown without having grains of corn as seed. Indirectly, unsanitary conditions may have something to do with favoring the advancement of foul brood if the germs of the disease—the bacilli—are present.

No, it is not believed that the disease is carried by the feet of the bees, nor that the flowers have any part in its dissemination. It is believed that a healthy colony "catches" the disease by carrying honey from a diseased col-

ony, the honey containing some of the bacilli.

It will be well for you to inform yourself in advance as to whether the disease that threatens you is American foul brood or European. After brood-rearing begins in the spring, if you or the bee-keeper who has the disease will send a piece of comb containing diseased brood to Dr. E. F. Phillips, Department of Agriculture, Washington, D. C., he will give you, without cost, information as to what the disease really is. If you write him in advance, he will send you a proper package in which to mail the comb, as also a frank to pay the postage.

FAR WESTERN



BEE-KEEPING

Conducted by WESLEY FOSTER, Boulder, Colo.

The Weather and the Bees.

We had such warm weather in January that the maples came out in bloom, and for a week or 10 days the bees were busy carrying in pollen. This has been a strange winter—scarcely any snow, and the last pollen I saw brought in, in the fall, was Dec. 10. That is not fall, but it was fall weather, all right. And in spite of this open winter, we did have a few days in early January when the thermometer registered 18 degrees below zero. Our position on the east side of the mountains, snuggled right up against the foothills, where Boulder canyon flattens out into Boulder valley, is one that is well protected, and gets the full benefit of the sun's rays. But the high range to the west of us has stormy, wintry clouds hovering over it most of the time, and it is not an uncommon thing for these storms to send out little runners that enthrall us for a few days in a genuine winter cold-snap.

Bee-Territory in the West

If we could just get up above the earth high enough so that we could see the area of cultivated land in comparison with the uncultivated prairies, mountain slopes, etc., here in the West—say of Colorado, New Mexico, Arizona, Utah, Wyoming, Idaho and Nevada—I think we would get a new conception of this country. Why! the cultivated and irrigated land would be so small in area that we could see only little spots here and there of green alfalfa fields and orchards. We would see a thin, narrow ribbon hardly discernible from our great height, where the Arkansas River valley lies with its great wealth of agricultural products when viewed at closer range. Then farther to the north we could see a larger spot of green, which would be the northern Colorado district, the largest area of irrigated land in one body in the United States. Toward the western part of the State, on the western slope of the mountains, would be found a good many fine tracings, and

these are the narrow valleys which are under a high state of cultivation, but small in extent except when taken in the aggregate. Not one-twentieth of the State would be seen under cultivation.

Looking over farther west we would see most of Utah a dry, barren waste of mountain range and sage-brush plain; but here and there would be spots of green and a few narrow green ribbon-like valleys, wider in some places and very narrow in others. In the whole view below us would be found these round and oblong and every shaped green spots interspersed with fine ribbons of valleys. We would see some fairly large spots in Idaho, smaller ones in Wyoming, and here and there some in Arizona and New Mexico. If we were comparing this great expanse with the Eastern States we would find it to be pretty dry.

After getting such a comprehensive view as this we would realize that the larger part of the West will always remain unprofitable as bee-range, but there are new fields for the bee-keeper being opened up all the time, and these make room for new ones every year. The Western States never will have the close cultivation that the Middle States have, but the land that is brought under tillage takes first place among any competitors. These little valleys are all different; they each have their special crop for which they are renowned. Grand valley has its peaches and apples; the Arkansas valley its cantaloupes, etc.; but they all grow alfalfa.

The Colorado State Convention

In spite of the failure of the honey crop throughout northern Colorado a goodly number of bee-keepers from this part of the State were at the convention. The southern part of the State was represented by several beemen, and also several came from the western slope. The meeting was a success in every way, and the work outlined, if carried out, will certainly aid the bee-industry of the State very materially.

American Bee Journal

There are two lines of discussion that come up at every convention. They are, How to get a better price for the product, or a larger share of the consumer's dollar; and the methods of handling bees to get a larger return from each colony in pounds of honey.

GETTING BETTER HONEY-PRICES.

How to get more for the product was the first thing that came up in the question-box, and the subject elicited lively discussion. The facts brought out were, that the producer was getting about 35 cents of the consumer's dollar in extracted honey and 40 to 50 cents in comb honey. The railroads came in for an undue amount for freight, and the cost of bee-supplies keeps steadily advancing so that the profits are not what they should be. The freight-rate on honey by the car-load is about 4 times what it is on potatoes a like distance. The Association has outlined work for the coming year that will, if carried through, bring about a more equitable rate on honey shipments. The fault lies quite largely with the bee-keepers themselves, in not calling these unfair rates to the attention of the railroads.

QUEEN-REARING AT HOME.

Mr. Herman Rauchfuss gave a valuable, practical talk on good queens and proper hive manipulations; he advocated wintering bees in 2-story hives, even if doubling up the colonies had to be done. In this way old queens could be gotten rid of, and the strength of each colony would be such that it could well withstand the severe conditions of winter.

Mr. Rauchfuss made a strong point in advocating rearing one's own queens in his own yards, and keeping each queen among the bees where she was reared. The introduction of queens into strange hives is the cause of many a fine queen soon deteriorating. While the bees do not kill her, they see that in some way she is not at home, and keep fussing and pulling away at her until many of them become bald and devoid of hair. A queen that is being continually worried will never do much good work. When each bee-keeper rears his own queens, it is easy to keep each queen among her own "home folks," and under these conditions she is contented, and does her best work.

SHIPPING-CASES FOR COMB HONEY.

For a long time the Western bee-keepers have been "put out" by the dozens of different sizes of shipping-cases for comb honey that have been sold. The trouble does not become apparent until a half-dozen or so of bee-keepers go to load a car of honey. The cases simply will not load compactly at all; some are $\frac{1}{4}$ inch wider than others; some are longer, and no two are the same depth, although they may all be double tier and hold 24 sections. We are now going to have a uniform case if the efforts of Mr. Frank Rauchfuss, manager of the Colorado Honey-Producers' Association materialize. The uniform size for cases, as suggested by Mr. Rauchfuss, was unanimously endorsed by the State Association.

SHIPPING COMB HONEY.

Mr. Rauchfuss also gave some pointed remarks on local shipments of comb honey. Every shipment of comb honey going locally should be crated in carrier crates holding 4 or 8 cases, and packed with straw. It will not be long until comb honey so crated will take a lower rate, and then no intelligent bee-keeper will fail to crate his honey properly for shipping. Mr. Rauchfuss said that he had not received a shipment of comb honey that came through safely uncrated.

OLD-TIME BEE-KEEPING.

The most entertaining feature of the convention was the evening of reminiscence in bee-culture led by Mr. A. F. Foster and others of the gray-whiskered veterans who had 50 years and more of bee-keeping to their credit. They told of the old-fashioned ways of bee-keeping, and how good the honey tasted in those days; how they robbed the hives, and plugged the hives to see if they were ripe, like we do now with watermelons.

ANATOMY OF THE BEE.

Pres. Collins and Prof. Gillette each exhibited stereopticon views of the bee's anatomy, work and methods, and made us much better acquainted with bees, the way they are built, and the ready-made tools they are born with.

FOUL BROOD LAW AND BEE-INVESTIGATION

The Association is making an effort to get a more effective foul brood law, and also to have a division of bee-investigation established at the Agricultural College. This subject was thoroughly gone over, and the legislative committee has a bill introduced in the legislature to establish a division of bee-inspection and investigation under the State Entomologist. This will centralize the work of the State bee-work under a very competent man, and every bee-man is urged to write his senator

and representative to support the "Bee-Keepers' Bill."

The State Entomologist will hire deputies to carry on the work of inspection and investigation, and the work will be prosecuted with vigor. The work that will be carried on in bringing in new and better honey-plants, and better bees, and the investigation of methods for the advancement of the industry, will be invaluable to the State.

BEES AND FLOWERS.

Prof. Cockerell, of the University of Colorado, gave a delightful talk on "The Evolution of the Bee," and brought out the relationship of all insect life and their influence on flowers and vegetation. The bee is older than man by several million years, and reaches up into the almost perfect development of the honey-bee in only about a dozen species, while the cruder and more primitive wild bee is found in thousands of species. The honey-bee is the last word in all bee-life, and has become so firmly established in her position that little change has taken place in her characteristics in three or four million years.

WORK OF THE ASSOCIATION.

The work of the State Bee-Keepers' Association for the coming year will be to secure the reduction of freight-rates on bees and honey, and the securing of a new foul brood law. Right now is the time for every bee-keeper in the State to join, so that the dollar from each member will be available for immediate work. If we secure but a part of the results we are going after it will be worth many times one dollar to every bee-keeper in the State. So send your dollar for membership to the secretary, Wesley C. Foster, Boulder, Colo., at once, and urge all your fellow bee-keepers to do the same. We are making the fight for you, and we can not do it without some help from you.

WESLEY FOSTER, Sec.

Boulder, Colo.

CANADIAN



BEEDOM~

Conducted by J. L. BYER, Mt. Joy, Ontario.

Co-operation Among Ontario Bee-Keepers

The Canadian Bee Journal has the following to say for the co-operative movement among bee-keepers here in Ontario:

"Mr. W. A. Chrysler, chairman of the committee having in charge the plans for the organization of a co-operative association, writes us that the committee expects to be successful in arranging matters so as to handle the crop of 1911. We feel sure that the affair will be brought to a successful issue when in the hands of Mr. Chrysler and Arthur Lang—they are hustlers."

Doubtless this was written before the recent tariff arrangements were made public. I fear, if the suggested changes on the duty on honey become law, complications will arise that we have not thought of. In like manner the work of the Honey Crop Committee of

the Ontario Association will also be greatly increased, for instead of having to take into consideration the crop of Ontario and the eastern Provinces, the whole of the United States will have to be taken into calculation.

Owing to illness, I was not able to attend the recent convention held in Brantford, so I do not know as to what was the attitude of the bee-keepers assembled there regarding the change in tariff on honey, but judging from the letters reaching me continually, practically all of the producers on this side of the line are not at all pleased with the suggested changes. Personally, I feel that Canadian bee-keepers have much to lose, and nothing to gain, by honey being put on the free list; but if the powers that be, decide to put

American Bee Journal

it that way, we will have to take our medicine with as good grace as is possible under the circumstances. One of the provoking features of the measure is that it was entirely unexpected, as none of us thought of such a thing, as there being such a radical change made at the present time.

If the measure does become law, one thing is certain, the interests of the bee-keepers of the two countries will practically be the same, and it would naturally be the means of a closer drawing together of all interested in pursuit.

Bees Curing Themselves of Foul Brood

In reference to Henry Stewart's article about bees curing themselves of American foul brood (page 47), I would say that when Mr. Stewart made his claims along that line in another bee-paper recently, I felt prompted to write an answer to him. As I did not do so then, I can not refrain at the present time from putting myself on record as believing positively that his claims can not be substantiated; and with Mr. Dadant and others I am firmly convinced that a comb once diseased with American foul brood is *always* diseased until it is melted or destroyed in some other way.

Bees Under Snow in Winter

With much interest and considerable surprise I have read what Mr. Doolittle has to say (page 49) regarding bees being covered over with snow in the winter-time. Here in Ontario bee-keepers differ as to whether it is a good practice or not, but the very fact of there being a difference of opinion among extensive producers, proves that here no such disastrous results occur as Mr. Doolittle chronicles in his experience.

Personally, I have had colonies covered over for months, and winter excellently, but in common practice I like to have the entrances clear, especially after the middle of February.

Some years ago, a friend of mine had a number of strong colonies drift over with snow, during a storm about the middle of April, and being left for a day or two in that condition, some of the colonies actually smothered. Of course, this was an extreme case, as the bees were very strong and had lots of brood in the combs at the time. With a space all around the hive free from snow, as Mr. Doolittle mentions, I would consider the bees in splendid shape for wintering, as the snow all around would give protection, and yet plenty of air would be available for the bees.

This winter we have had but little snow, but about 10 days ago a bad storm from the east prevailed all day. At the Altona yard the east end is sheltered by a tall row of evergreens, and from past experience I know that a number of colonies will be completely covered over. I have not been to the apiary for 8 weeks, and I am not worrying about those colonies in the least. However, today (Feb. 18) it is quite mild, and I have 'phoned to the farmer on whose place the bees are, to shovel the snow away from the hive-entrances. If the weather had remained cold I

would have left them alone for a while yet.

A few years ago, at this same yard, the snow drifted among the bees so that every hive was covered about Feb. 1st—in fact, the snow in places was 6 feet deep among the apple-trees where the bees are located. The hive-entrances were opened after every storm as soon as possible, and about March 25th the bees had a good flight.

About a month later I was at the yard again, and was much chagrined to notice that I had entirely overlooked a colony near the fence at the east end of the yard where the snow had been very deep. The hive was still covered over with the exception that one corner of the case was beginning to show through the snow. The day was quite warm, and the bees flying freely from all the other hives, and as I went to the barn for a shovel, I felt sure that the bees would be dead—had no doubt about the matter at all. As I began to shovel the snow away, I found things just as Mr. Doolittle describes—all around the hive the snow was melted, and in front there was a space big enough for a bushel

basket. Were the bees dead? Not a bit of it, and they seemed in no hurry to get out, either. They were in perfect condition, and that colony was one of the best in the apiary that season. In this case the colony had been entirely covered with snow for nearly 3 months, and yet no harm was done.

I will not attempt to explain why there were such different results in Mr. Doolittle's experience, but certainly I do not worry any if the snow is over the hives during cold weather, especially if I am sure that the hive-entrances are clear of snow.

Bees Have No Flight in 4 Months

This is Feb. 19, and the bees on the summer stands have had no flight since the latter part of October. A few colonies show signs of dysentery, but if a flight is possible inside of 2 or 3 weeks, I look for fair wintering, after all. A short time now will tell the tale, and when writing for next month I hope to be able to say, "Bees had a fine flight on —."

SOUTHERN



BEEDOM~

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

Pleasures of the Bee-Business

Since the last article it has been quite cold several times, and we have had to confine our work to our shop-work. This is one advantage the bee-keeper has over many others, and that is a thing that we appreciate about the bee-keeping business more than anything else, except the "paying part of it," which, of course, naturally comes first, as it is the thing that brings us the bread and butter part of the business. But just as important are the joys obtained in any business, and if the bee-keeper manages rightly he will find that he is a fortunate creature indeed, blessed with advantages that are not possessed by a great many who work hard for their daily bread. Therefore it should not only be the main question to consider when one inquires about the bee-keeping business as to whether it is a paying proposition, from a monetary standpoint alone.

Bee-Keeping a Healthful Field of Work

Besides being a paying proposition I have found it a field of work that will give one good health and long life, if followed rightly. One of the main features in this connection is the fact that one can go out and enjoy himself in the fresh air and sunshine while he is engaged with the daily work with the bees, thereby earning the necessities of life at the same time. Then, when the weather is such that it is not well to go out, the indoor work, or no work at all, is quite an item. The work in the shop, especially if this is a comfortable one, is quite a relief, for a change if indoor work is enjoyed for a while.

I will show my shop and honey-house next month.

Cold Weather and Condition of Bees

Although the cold weather was very severe it has not done very much harm to the bees. One of the main reasons was that they were all in very good shape, strong and vigorous, and with plenty of stores. This point alone is worth its weight in gold, and it is therefore a thing that receives a lot of my attention at the proper time. To have the bees go into winter quarters in the fall so that they will have amply sufficient, not only for the winter requirements, but long into the following spring, is a consolation that makes one feel good. And it is only another one of the things that adds to the enjoyment and the good health of the bee-keeper.

It is surprising how much cold a colony of bees can stand if it is in prime condition, and with a lot of honey to live on. So my bees are in fine shape for the coming season, and if everything else turns out favorably the prospects for a good crop are very fair. We have had very good rains in most parts of the State, and a good honey harvest generally would liveen things up to the tune of yore.

The River-Bottom String of Apiaries

It is often said that it is folly to spread out too much, but when we consider the advisability of keeping more bees, it becomes apparent that we must necessarily do this very thing. This is what I did years ago. My apiaries that

American Bee Journal

are located in the great valleys of the Brazos River, on the extensive cotton plantations, more than 150 miles away, are not only a paying proposition, but I have gotten my delights out of the venture. Although I have experienced "some tough times" occasionally, when things did not seem to turn out just as they should have done—according to my notion at least—I have enjoyed it all. The last few years the honey crops have reached into tens of tons in those apiaries alone, and this in addition to the string of apiaries here is not so bad.

Some Things Not Exactly Bees

Some of the things mentioned today are "not exactly bees," but it is such a valuable adjunct to the bee-business, and especially to the bee-keepers' welfare, both from a health as well as a financial point of view, that I have mentioned them in this article. Some other things that are not exactly bees, and which one sees when taking a trip to the Brazos River valley apiaries, are the plantation scenes that exist there, which reminds one of the stories of old that we used to read about—the old, contented darkies on the great plantations, in their quarters in the "cotton patch," at the "commissary," the pay-window, and, in fact, all over the place. It is quite a change to see these when I make my trips for a short stay at the apiaries there. Then I meet the various superintendents of the many plantations, and these are jovial and hospitable fellows, who have always treated me very kindly, and made me feel at home with them. One of these is shown on his favorite horse, ready to go out on his daily trip of inspection over the several-thousand-acre plantation. His duties are many, and I often wonder how he can manage so successfully the great number of negro employes on the plantation.

Another picture shows a lot of negroes who are waiting for their weekly pay, so they can procure their "rations" from the "commissary." This is only part of the number on the plantation, as they keep coming and going as they get their pay.

In some future issue I will show the readers a map of my operations there,



WAITING FOR THEIR WEEKLY PAY AT THE PLANTATION HEADQUARTERS.

with the locations of the apiaries, the headquarters located centrally so that all the yards are within easy reach at any time. This is an important point to be considered in extensive out-yard management. Hoping that it may help others in some way, at least, is why I will endeavor to write this subject up later.

Early Brood-Rearing, Honey-Prices, Etc.

Bees have been bringing in new pollen very rapidly for the past 3 weeks, and now many colonies have hatching brood. We expect though, later, to have hard freezing weather, as February is often our coldest month, and bees would be better off without this early brood-rearing in this locality. To give an idea of how far the bees are advanced here this unusually warm weather, I cut a "bee-tree" today that had sheets of brood two feet long, with considerable capped drone-brood. How is that for early brood-rearing?

PRICES OF HONEY IN TEXAS.

Mr. Scholl, you are right when you contend the price of honey—both bulk-comb and extracted—is not as low as some would have us believe. My selling price for a good article of honey has always been 8 cents a pound for

extracted honey, and 11 cents a pound for bulk-comb honey, put up in 60-pound cans, and I have never yet had all the good honey I could sell in a season. While my selling price has been much lower the past season than the above, the quality of the honey has also been much lower, badly mixed with honey-dew; but for all that, I sold over 13,000 pounds the past fall and winter, and I could have sold more than double that amount. I don't know how it is in other States, but we have a good market and at good prices, too, if we will only ask it.

UNITING COLONIES.

A good way to unite bees is this: Select a day that is quite cool, but not freezing, when but few if any bees are flying. Place an empty hive on the stand you wish the colony to occupy. Place the colonies you wish to unite near the hive prepared for them; take a frame of bees and all, first from one and then the other, and place in the new hive you wish the colony to occupy. Try to get the frames that have the most bees on them. Continue this until you have the hive filled with frames; of course, using enough smoke to keep the bees from flying at you during the operation.

When the hive is filled with frames, give all a good smoking, set an empty super on top, and shake and brush the remainder of the bees from the old hives into the new hive, taking a frame first from one and then from the other.

When all is done, remove the super, give the bees another smoking, close up the hive, and the work is done. If there is a choice of queens, the other should be removed before the uniting is done, otherwise the bees will settle that themselves.

The above, of course, is not new, but it has worked so well with me, and is so very easy and simple, that I thought it would be worth repeating here.

Rescue, Tex., Feb. 5. L. B. SMITH.



A SUPERINTENDENT ON A SEVERAL-THOUSAND-ACRE BRAZOS RIVER VALLEY COTTON PLANTATION.

Little Robert, aged 9, had been bathing in the Abenakis River all through the dog days. His liver was waterlogged and he was off his feed. His mother, being anxious, asked, "Could you eat honey in the comb, Bob?" The lad lifted his big brown eyes to his mother's face, and answered: "Could I? Why, I could eat it in a hair-brush."

CONTRIBUTED



ARTICLES~

Improvement in Honey-Bees

BY E. S. MILES.

The desirability of improvement in honey-bees is probably conceded by all. There may be a question of the possibility in some minds, but a glance at some of our leading bee-keepers' views should modify any doubts in that direction.

Let us begin by consulting G. M. Doolittle, who says on page 154 of his book, "Scientific Queen-Rearing:"

"By crossing the best specimens of my home-bred stock with similar specimens from different apiaries from 100 to 1000 miles from me, I have succeeded in securing bees of the Italian race which are far more constant in color than any I could get 10 years ago; while at the same time my bees have vastly improved as to their working qualities."

On page 71 of "Alexander's Writings on Practical Bee-Culture," Mr. Alexander says:

"You all know that a few years ago the A. I. Root Co. told us that they had found in one of their apiaries a queen whose bees gathered far more honey than any other colony, and that they saw such a decided difference in favor of this queen and her bees that they valued her at \$200.00 for breeding purposes. Now, as I was fortunate enough to get 100 grand-daughters of this \$200.00 queen, and having those 100 queens in our apiary for 3 seasons, I am sure I know something of their real value. First, we have had very few natural swarms from those queens—I don't think over 20 from the 100 colonies during the 3 summers; and when extracting we have always had very heavy combs from those bees, usually of nice light honey, even when our buckwheat was in full bloom. I am sure, therefore, that the blood we now have in our apiary from that \$200.00 red-clover queen has given us several tons of additional surplus honey."

In "Advanced Bee-Culture," pages 31 and 32, Mr. Hutchinson says:

"In brief, if I were to engage in the production of either comb or extracted honey, I should adopt pure Italians; then, by selection in breeding, get rid of the undesirable traits, such as watery, cappings of the honey, inclination to build large quantities of brace-combs, undue swarming, etc. Every bee-keeper of experience who has tried different strains of bees, knows there is a great difference between different strains of even the same variety. A bee-keeper who is just starting in the business, or one already in the business who has not taken such a course, ought to get queens from several of the best breeders, then adopt some easily kept but comprehensive system of recording the traits and peculiarities of each colony. * * * If the bees of any colony prove vindictive, requeen it. If the bees of another colony are poor comb-builders, or cap their honey poorly, destroy the queen and give them another. Do the same if they build large quantities of 'brace-combs,' or if they are unduly given to swarming, or if they are poor honey-gatherers, or do not winter well. On the other hand, the desirable traits should be watched for and recorded, and queens reared from the queens of such colonies. Care ought also to be taken that no drones are reared or allowed to fly from undesirable stock, and pains taken to rear them in goodly numbers from the best colonies in the apiary. By pursuing this course the bee-keeper will eventually build up a strain of bees that will be peaceable, hardy, good honey-gatherers, and good comb-builders. Well-directed efforts at improving his stock, carefully watching and recording the traits of each colony, getting rid of poor queens and keeping the best, perhaps buying queens occasionally and comparing their progeny with the stock already on hand, always

breeding from the best—such a course as this will prove the most profitable of any which a bee-keeper can pursue. The wonder is that it is so greatly neglected."

On page 4 of *Gleanings in Bee-Culture* for Jan. 1, 1911, Dr. Miller says in a "Stray Straw:"

"Whenever improvement in bees is suggested, such as breeding for non-swarming, the cry comes, 'Oh! you can't control the drones.' Isn't that objection a little over-worked? True, drones can not be directly controlled. Indirectly they can be, and *have been*. I grant you much quicker work could be made with direct control of drones; but do you believe you can persistently select queens with any one object in view and not in time have the drones affected thereby? Look at color. Couldn't control drones; but there are your bees, yellow from tip to tip. I can't directly control drones, but I have bred from biggest yielders, and have thereby bigger crops. Do you think my drones are not improved? They'll revert. Let 'em revert. Keep breeding against reversion. A perfect non-swarming bee may never be; but a practical non-swarmers just as well as a non-swarming hen. So long as my record yields come from colonies that make no attempt at swarming, I'm going to keep up the chase."

WHAT CONSTITUTES IMPROVEMENT.

Some of the traits which it is desirable to perpetuate are: Good honey-gatherers, not given to swarming, hardiness, gentleness, and good comb-building.

VARIATION.

In order to accomplish any change in the characteristics of a species we must have a certain amount of variation to start with. If all specimens of a species were absolutely alike there would be no chance for selective breeding. Fortunately for us, there is a variation in all animal species. Pages of testimonies could be produced from our largest and most experienced bee-keepers to prove that bees are no exception to this rule. But one who would claim to the contrary would only be advertising his own lack of observation or experience.

So now we can take advantage of this law of variation and breed from those colonies that vary in the direction we desire. If this is done long enough these traits will become "set" so that they will be reproduced, for

LIKE PRODUCES LIKE.

There is also a tendency in nature for animals to lose an appendage or trait that has, by changed environment, become useless; e. g., horns on cattle, and the wildness of all animals bred and handled for a long time by man.

The claim has been made with a great show of wisdom that the bee is "wild" by nature. What if it is? Were not all animals "wild" until man kept them in subjection, and by handling and selection in breeding overcame that trait? Some domestic animals are more or less "wild" yet, and there is considerable variation in this regard among our domestic animals. Notice the most handled by man are the least wild, viz.: the horse and dog.

The question naturally arises here,

Are all bees equally wild? Here, again those of experience know that there are strains of bees that may truly be called tame, or domesticated, as compared with others. What reason is there to expect anything but "wildness" in the majority of bees at the present day? How long has intelligent selective breeding and really scientific care been applied to bees? We may say that it is to be expected that the great majority of bees are "wild by nature," since they have run wild for hundreds, perhaps thousands, of years.

What difference whether a colony lived in a hollow tree or a box in the back-yard, so long as conditions of shelter and size of brood-chamber determined its survival? Or what difference could be expected even from the frame hive of best design if no control of breeding was had, but this all left to circumstances, of size of brood-chamber and location of same as to shelter? Under the old way, for hundreds of years, those bees that swarmed were considered the best, and that old notion is still floating around the back lanes in the bee-world, and some still cling to the old, highly original idea that when the bees swarm they are "doing fine." This kind of bee-keeping never has affected, and never can affect, the bee's disposition, or give us other than a bee that will swarm, sting, and give us honey "sometimes."

THE NON-SITTING HEN.

When man learned to hatch eggs by artificial methods, he was able to improve his chickens; developed strains that were "non-sitting," and layed more eggs. Before that he had to have them "sit" in order to get more chickens. And so it was before we knew how to rear queens equal to natural swarming—we had to have them swarm to get more bees. But now, since as good queens can be reared by artificial methods—yes, better, because as good queens that will produce better bees can be reared—it is time to eliminate the swarming trait.

Here let me quote a little more from Mr. Alexander, from "Practical Writings on Bee-Culture," page 67:

"The most common and the worst mistake that can be made in rearing queens is saving the natural cells and virgin queens from colonies that have cast natural swarms. I have heard this method recommended by men who were considered quite good authority, and it seemed as if I could not keep still and listen to them. We spend valuable time at our conventions in discussing various ways for preventing natural swarming, and we frequently see long articles in our journals, from noted writers, recommending certain methods to prevent it. Almost daily during the summer season we see bad results in our apiaries from excessive swarming, and then so many will do this thing of all things that will perpetuate the desire to swarm, by saving cells and virgins from the colonies that are the first to swarm; and invariably when this objectionable method has been practiced a few years, a strain of bees will be developed that is ready to swarm in season and out of season. Nor is this all, for a great step backward has been taken, and the bees from the first will begin to degenerate, and part of their yellow color will be lost; and the bees themselves being cross and more irritable, they will fail to gather as much surplus, and they become more nervous in winter. In a few years the apiary will have degenerated until it is of little value. It must then be built up again with good stock."

As "Eternal vigilance is the price of liberty," so "keeping everlastingly at

it" is the price of success. To go up, you have to exert yourself and climb; to go down, all you've got to do is to hold still and slide. So with breeding bees or other animals. What you gain you must ever be on the alert to keep, and be up and hustling to add to it. Bee-keeping has emerged from that state of lying in the shade watching one yard for swarms, to the condition of several yards, and rustling from one to another with preventive measures. Who shall say the next step may not be the perfecting of a strain of bees so little given to swarming that several additional apiaries may be added with only 2 or 3 visits during the season to put on supers, harvest the crop, etc.?

In another article I hope to tell something of rearing a few queens for our own use, and the methods of requeening undesirable colonies without interfering with the honey crop.

Dunlap, Iowa.

Honey-Dew—An Excretion or Secretion?

BY R. C. AIKIN.

This subject will not down. I note what is said about it in the October issue of the American Bee Journal. It is not my purpose to enter into an argument or attempt to prove that one or the other theory is true, but rather to tell what I know on the subject.

First, let me say that I have never seen extensive times of honey-dew, nor have I been fortunate enough to come in contact with any bee-keeper who has. The greatest amount of this product I have ever seen, or that has ever come anywhere near me and among my bee-keeping acquaintances, was during the past two years when I had considerable, and so did many or nearly all throughout northern Colorado. I say this has been the most extensive experience, but almost every year for the past 20, there has been more or less of the product.

There is a green louse on the box-elders in more or less numbers every year, coming before the regular honey-flow, and *always* when the lice are present there is the honey-dew, and the quantity is in proportion to the quantity of lice. If the weather be damp while these lice are present, the moisture from the air will unite with the excretions and make it seem more abundant; if very dry it dries up quickly and seems less abundant. Besides the box-elders, the cottonwoods have nearly every year been "lousy," often about the seed-pods; on these there have been lice, and their excretions often almost sustain the colonies, supplying their daily consumption. Colorado air is very dry, and in mid-day, and after part of the day, but little work is done on the trees, unless it be a cloudy day with the air full of moisture.

How do I know that the sweet gathered was the excrement of the lice? Simple enough. I have many times watched them do the trick. When these trees are showing the dew on the leaves and on the sidewalks or fences, or whatsoever happens to be underneath them, and when the bees are gathering

it from the upper surfaces of the leaves, I always find the lice above. Go to such a tree—preferably box-elders, for they are so low they are very easily inspected, and usually without a ladder—in the morning before the sun gets very high. Get the tree between you and the sun; shade your eyes so the sun does not shine directly in them, yet so that you are looking toward it, and you will see the spray falling almost like particles of a fog when it becomes so nearly rain that it begins to precipitate. When you have seen this, walk up to the tree and look on the twigs, and especially on the green, fresh growth, and on the underside of the leaves, and there you find the green lice in great numbers, and on the backs of many of them you will see the liquid that is being excreted. I have many times seen it, and watched it leave the body of the louse. I have watched ants go and partake of this right from the insect. I have seen some of this dew for many years past, and seen the bees gathering many, many times; have seen it in the hives, and tasted it there, but I have never once seen the dew except when the lice were present.

This does not prove, by any means, that there is never any exudation from leaves that bees take up, but the above being my experience makes me think that such cases are the exception. Whether this louse product is simply an excrement, or whether it is a secretion of the insect, as milk, saliva, etc., I do not know.

Loveland, Colo.

"Yours for a Better Race of Bees"

BY G. M. DOOLITTLE.

Not long ago I received a letter which closed with the words which I have placed as a heading to this article. Those words have been running in my mind quite a little of the time since I received the letter, and I have been asking myself whether the bee-keepers of the world were trying to improve their stock with an energy equal to that used by our poultry-men, dairy-men, and other breeders of our domestic animals. Even the lovers of dogs have put their brains to work till we have almost an unnumbered description of these animals, from those the ladies like to hold in their laps to the gaunt greyhound, that can almost equal a locomotive for speed. And while this is so, the lover of our industrious *honey-bees* has done very little to give us aught else save one giving an average but little above those which our fathers hived in their "log gums."

A few years ago a man told me that there was very little use in trying to improve bees, that he had tried for 10 years to improve his, but could not see that they were any better now than when he commenced. I asked him if he had worked as hard to improve his bees as he had done with his cows, for he had the name of having the best herd of cattle there was in his town. He told me that years ago he found that some of his cows were not nearly so good milkers as were others, so he set to work to have all as good as the

best, and he told me that he had succeeded; but he did not have the time to put on the bees that he did with the cows.

I asked him if he saw any difference in the gathering qualities of his bees, and he admitted that the difference was as marked with them as it was with his cows when he first went into the dairying business. And such is the case with very many of our bee-keepers, especially with those who have taken no really advanced ground in trying to improve their stock.

Probably there are few apiaries in the United States, containing 10 or more colonies, but that the owner thereof would be compelled to acknowledge that certain colonies do better than others nearly every year in producing honey; unless said owner has taken pains to bring his stock up to a high point of perfection along this honey-gathering line. How often have I heard the expression at bee-conventions, and in visiting different bee-keepers, "Such a colony gave me a big yield, and if the whole apiary could have done as well, I should have had twice the honey to send to market."

Again, I have come across certain bee-keepers who claim that the hive has very much to do with successful apiculture. There is no question but what a good hive is needed by all who are engaged in our pursuit, but a *hive* can not gather nectar any more than can the apiarist. It is the *bees* that produce that which the apiarist is seeking after.

Then, others claim that the strength of the colony has all to do with this matter; but I am inclined to think that the race of bees has the greater influence over these things. I am sure that certain traits of character exist in certain colonies of bees that do not in others. And if this is so, there is a chance of improvement in our bees, and I have argued for years that it would be to our credit in the future to work more for the improvement of our bees, even though we slack not our pace in working for the maximum numbers in our colonies just at the time of the nectar-flow; and the providing of hives the best suited to the wants of the colony and the keeper of the bees.

I am well aware that the man who had success in breeding his cows up to the standard of perfection, had an advantage with them which he did not have with the bees, in that he had absolute control of the father as well as the mother; for as yet I know of only one way for the rank and file of bee-keepers to accomplish what they desire along this line of improvement, and that is through the queen. If we could control the drone as we can the male in our other animals, this improvement matter would be much easier, but as we can not control the drones to any great extent, we have only the queen to aid us materially in the improvement we are desirous of making. But, even if we are thus handicapped, I am sure quite a gain can be made if we will only set ourselves at the task as we do in most other pursuits in life.

Over a quarter of a century ago I began to turn my attention to this matter, as I found that I had some colo-

nies that would more than double the amount of honey each year that others would gather. At the close of one of the best honey seasons I found that some of my colonies had given me nearly 300 pounds of section honey, while others had given less than 50 pounds. On thinking the matter over while lying awake one night, I resolved to bring those less-than-50-pound colonies up to the average of the apiary, at least; so, the next day I struck an average of the number of pounds of surplus honey produced in the whole apiary, and then all colonies which did not come up to this average were marked. These marked colonies, where it could be done at a profit, were united (after killing their queens, either in the fall or spring) with others which had produced an average amount, or above. Where all were not disposed of in this way, I superseded the inferior queens with those reared from the colonies which had given the highest amount. This required the keeping of a record of each colony, but the keeping of such a record was of much value in several ways besides the desire for the improvement of stock.

One thing is very certain, and that is, that no great gain can be made along any line of improvement unless a record is kept which gives some data to work from, and the breeders of all improved stock learned this long, long ago. And this record-keeping is not so great a job, after all. I have a piece of section for each hive, and on this is jotted down the number of pounds of honey taken each time (as well as other matters) from the colony occupying the same, and at the end of the season an adding of the amounts gives the yield from that colony. Then when the season is through, and the long winter evenings come on, these pieces of sections, each bearing the number of the hive they account for are gotten together, and the matter which is on them in a condensed form is transferred to a book. And as this book is kept, and what each colony does the next year added to it the next winter, we soon have something telling what colony No. 1, No. 2, No. 3, and so on, has done for a term of years, so that the best strain can be bred from queens which show the best traits through their offspring.

If each apiarist in the United States would follow a course similar to this our country would soon lead the world in giving something of great value along the line of honey-production.

Borodino, N. Y.

Moving Bees—Comb-Box

BY GRANT ANDERSON.

Moving bees in the heat of summer is looked upon as a dangerous and difficult job, but not so if you only know how to go about it. I have long since quit moving bees in the night, and when I have bees to move I move them any day that suits my convenience, no matter how hot.

I make a shallow tray out of light lumber, with a rim an inch high all around, and large enough for the hives to set down in and fit close enough to prevent the bees from crawling out. In

the bottom of the tray I leave an open space of 6 inches or more the entire length of the tray, and cover it with wire-screen.

A cleat $\frac{3}{4}$ x 2 inches is nailed on each end flat on the under side of the tray; this keeps the tray up off the floor of the wagon, and admits a free circulation of air from below. In moving the bees have one such tray for each hive, or as many as you want to move at one time.

Set the trays down beside the hives and lift the hives over into the trays, and see that they sit down well inside the rims; then drive one nail in each end through the rims of the tray to keep the tray from dropping off the hive in handling.

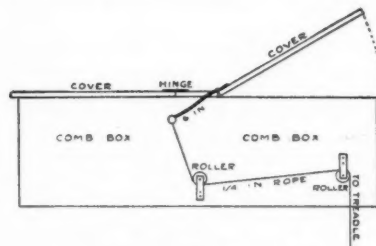
I take the covers off and put a wire-screen on top, with thin strips of wood over the edges of the hives, and nail down with $\frac{3}{4}$ -inch nails.

If the roads are very rough I use springs on the wagon. I moved 30 colonies 20 miles over rough roads the last days in August, and hived 2 large prime swarms the next day after we set them out at home, and 2 days later I extracted 5 gallons of honey from the heaviest of them.

COMB-BOX FOR EXTRACTING-FRAMES.

Now, while I think of it, I will send a rough sketch of my comb-box which I have found very handy in taking honey from the hives to the extracting-house. The box is 33 inches long and 20 inches wide; has a division-board in the middle, crosswise, and a 2-inch strip nailed over the division securely to the box. To this strip the 2 cover-boards are hinged.

At the back part of the covers are 2 iron levers 9 inches long, and secured to the top of the covers with screws, and so bent that when the cover is



THE ANDERSON COMB-BOX.

raised in front the lever will pass down by the side of the box, as shown in the sketch. To the end of the levers are attached small ropes which are passed under a 2-inch roller near the bottom of the box, and carried forward and over another roller and down to a treadle which drags on the ground. To lift the lid or cover press on the treadle with the foot, and the cover lifts in front, and you set in the comb, using both hands to handle the frames, if you wish.

As soon as the foot is removed from the treadle, the cover falls down and closes the box, thus giving the robber-bees no chance to get into the box.

The box is carried crosswise on the wheelbarrow, and each end of the box will hold a full super of combs, so I take 2 supers full at each load.

The levers and ropes to the covers

are on opposite sides of the box, so as not to be one in the way of the other. The sides of the box are rabbeted like the ends of the hives, and the frames hang crosswise in it. The bottom of the box is lined with tin so as to hold all the drip from the frames. It is 12 inches deep, and the tin comes up 2 inches on the sides and ends.

This box works well on the Daisy, or any other good wheelbarrow.

San Benito, Tex.

Value of Old Brood-Combs

BY C. P. DADANT.

Some very interesting remarks are made concerning old combs by Dr. C. C. Miller, in *Gleanings* for Feb. 1st. He says:

"A very old brood-comb weighed 36½ ounces; a new one that had not been bred in weighed 11 ounces. That means that there might be a difference of about 16 pounds in the weight of two 10-frame hives, each containing the same amount of bees and stores. Some colonies have probably starved because heavy old combs fooled the beekeeper into thinking they had stores enough."

On this subject, Mr. Langstroth said, as early as 1859 (*"Hive and Honey-Bee,"* 3d edition, page 275):

"In movable-comb hives the amount of stores may be easily ascertained by actual inspection. The weight of hives is not always a safe criterion, as old combs are heavier than new ones, besides being often overstored with bee-bread."

No one, however, to my knowledge has ever before taken the pains to weigh 2 combs to ascertain the possible difference between old combs and new ones. Each one of us old beekeepers has probably been deceived at times by this difference. It is worth while to draw the attention of the practical apiarist to this short item. Dr. Miller's statements are always worthy of note, but information like this should be underlined. We too often depend upon superficial examination, and suffer accordingly. Not only are old combs heavier than new ones, but old combs are also oftener filled with pollen, sometimes hidden under a slight amount of sealed honey. The conclusion to be drawn is that hives containing very old combs should be considerably heavier than new ones, if we wish to be sure of a safe amount of winter stores.

On the other hand, and a little farther, Dr. Miller shows us that old combs are valuable. He says:

"It will be 50 years next summer since I began keeping bees, and I never yet melted a comb because old. Do you suppose my cells are too small? How shall I tell?"

To this the editor replies, stating that it is a good practice to melt up old combs since brood-diseases have become so prevalent in the United States.

I wish in this connection to make a statement. My experience has been exactly similar to that of Dr. Miller. For 40 years or more, or beginning in 1864, we made a practice to save all worker-combs, whether old or new, if they were straight. On the other hand, we melted all the drone-combs as fast as we could remove them, replacing them with worker-combs immediately. I have seen old worker-combs which I deemed advisable to melt up, but it was

American Bee Journal

because they were more or less distorted, uneven, or pierced with holes.

In the present days of comb foundation, when we know that we can replace our old combs at small cost since we can melt them up and have the wax worked again into the proper foundation, we will certainly hesitate less. But I can not help remembering the old days when I was less than 20, and my father sent me to the bee-keepers of the vicinity to buy up old combs of colonies that had died during the winter. In most instances they were given to me, so little did the old-time bee-keepers know about the value of them. Besides, they would say: "The moth will destroy them before swarming-time, and it is a blunder to try to save them." And they shrugged their shoulders at our ignorance. But the elder Dadant would smile. He always had artificial increase from the previous season that were not fully provided. He would remove a comb of brood and honey from one of his strongest colonies, give this to one of the new hives, and in its place insert a frame filled with purchased combs adjusted with wires by the old transferring method. True, in these times of foul-brood rampant over the land, such a course would be a mistake. But at that date little was seen of foul brood, and I may here state that I did not see a case of foul brood anywhere until 1903, when I took a trip to the West.

I do not believe that there is any danger in your old combs if you have never had the disease in your apiary. Of course, it would be an error to advise any one to buy old combs from the outside. But let it not be feared to court foul brood because the combs are old. The only case in which I would melt up old worker-combs that were neither crooked nor defective would be, if they were so dirty and thick that the queen failed to lay eggs in them during a good breeding season. This ought to condemn them. If, however, your bees have had foul brood, it is best to preserve them unless you are positive that they are immune.

However, the real danger of foul brood lies more in the honey than in anything else, and we must by all means avoid feeding honey the source of which is not positively known to us. Under ordinary circumstances, when we must feed, it is best to give sugar syrup to the bees.

That worker-combs, if fit for breeding, have great value does not admit of a doubt. They cost honey, labor, and time. But some people would have us believe that the cost of comb is *nil*, because the wax is produced involuntarily, unknown to the bee, and must be thrown away if not used as soon as produced. They should add to this that there is no production to speak of if the bees are not compelled to remain with their honey-sacs filled with honey for a certain length of time—24 hours or more.

In all my experience I have never seen a positive waste of wax-pellets in any quantity, except in one instance. The combs of a hive had broken down during the height of a honey-flow. The bees had gathered all they could of the running honey, and had clustered on the outside, owing to the deplorable

condition of the inside. It was in an out-apiary, and when I came, two days later, parcels of wax in large quantities were lying about, and small knots of it had been plastered in different spots by the confused bees. In normal conditions, if the bees can unload their honey-sacs upon their return to the hive, very little wax-production results—not more than enough to lengthen the combs as needed, and to seal them. There is, to my mind, a perfect adaptability to conditions, and Nature has devised an arrangement which is better than we could imagine.

Concerning the value of combs or foundation to the bees, I can not refrain from citing a practical European apiarist—Ph. Baldensperger—who, in the January number of *L'Apiculteur*, of Paris, says, page 6:

"It does not seem possible that a thinking being be still able to doubt that a swarm hived upon 26 frames supplied with wax be not farther along than a swarm hived upon 26 empty frames; that the swarm provided with work already done should be beaten, or even caught up with, by the other with nothing but empty space before it."

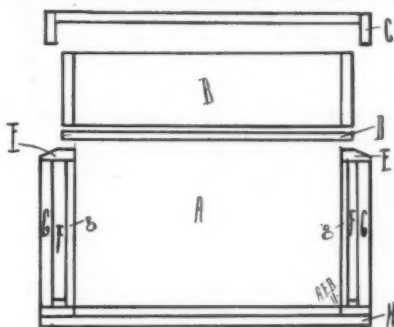
Dr. Miller's opinions on old combs are significant. Even though our younger men may not hesitate to destroy old combs to replace them with new, owing to the comparatively small cost nowadays, old and experienced apiarists are certainly excusable for continuing a practice which has been one of the causes of their early successes.

Hamilton, Ill.

Wintering Bees in Protected Hives.

BY DR. A. F. BONNEY.

This article is not for experienced bee-keepers, unless they find something in it to interest them, but for those who keep a few colonies of bees—those who would like to keep some—and that



SECTIONAL DRAWING OF A PROTECTED HIVE

- A—Brood-chamber.
- B—Super to be filled with chaff.
- C—Metal-roofed shallow cover.
- D—Super cover, or bee-escape board with hole closed.
- EE—Water-table.
- FF—Chaff space between walls GgGg.
- GgGg—Inner and outer walls.
- H—Bottom-board.

This represents no particular hive, but those having $\frac{3}{8}$ -inch outer walls *must* be made moisture proof with paint, white lead in the joint and rosin inside.

larger army who once engaged in apiculture but abandoned it on account of the terrible winter losses. This is where the average professional bee-

keeper will smile in pitying derision. The fact remains that of farmers alone there are thousands who would now be supplying themselves with honey were it not for the fact they were sold single-walled hives when they should have been furnished those of the protected pattern.

Let me digress long enough to say that I incline to the opinion that the more people there are who keep bees, the more honey there will be sold, for there are many now who look on it as an expensive luxury, and they have to learn its food value. An annual output of \$25,000,000, while a large sum, is but about 25 cents per capita consumption of honey. However, while this matter is not pertinent to this article, I think increased production will result in increased demand, for surely there is room to increase.

I have spent 5 years posting up on protected hives, and for the benefit of those who, like myself, can not have a cellar—perhaps would not if they could—and must economize time and strength, I shall give the result of my investigations, though I had not thought to write when I took up the study, my only idea being to find a hive which while comparatively inexpensive and light would keep my bees safely over winter.

I was discouraged on all sides. I was told that chaff hives are heavy and bunglesome; the bottoms are fast to the body, the covers leak, they are out of date and very expensive. I believed, for the men who told me had nothing to gain by my actions, but as my experience increased, as did my knowledge, I found that these men were living in the past. They had never seen a modern chaff or protected hive, and, I guess, there are those who will doubt the statement that the protected hive as now made will weigh but a little more than the dovetailed hive using the same size frame, and no heavier than some I have seen made of yellow pine, sold to the farmers by country stores. Had they ever handled any other kind they would not have bought them, for they weigh like lead.

The principal objection the editor of one of the bee-papers had to the chaff hive was that he should not like to use it in the summer on account of its weight, and in a recent answer in this Journal, Dr. Miller states that the chaff hive is heavy and expensive. Now both these men, as well informed as they are, evidently have not kept up with the improvements in protected hives, for they have been improved. Years ago they were massive affairs, with walls 4 inches apart, and that would call for a water-table fully 6 inches wide. I can not learn what the covers were, but it is immaterial so long as the body was practically immovable. I have secured samples of all but one of the protected hives made in this country, and find that the heaviest of these weighs 17 pounds filled with frames, as against 12 for a dovetailed hive—a difference of only 5 pounds. The cost, which, to the average farmer is more material than weight, is \$2.20 each in lots of 10, and that is for body, frames, bottom, super-cover, chaff-tray and winter-cover.

The next hive in weight weighed 2 $\frac{1}{4}$

American Bee Journal

pounds less, while the lightest, made to do entirely without packing, will not weigh more than 10 pounds—actually a little less than a dovetailed hive taking the same size frame. However, the walls are but $\frac{3}{8}$ inch, with a $\frac{3}{4}$ -inch space between them, and no packing. The prices on this hive are about the same as on the second one mentioned, being \$2.40 with winter cover, while the other is about \$2.50. These 3 hives are all I have been able to find, as the most of manufacturers have quit making them, owing to limited demand.

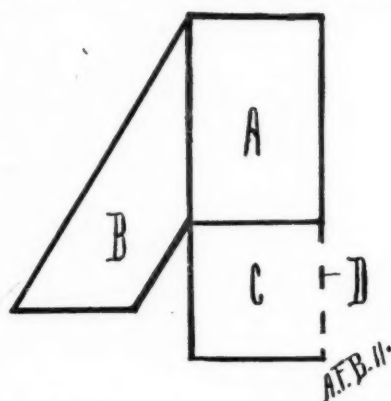
Two of the hives I mention have covers which telescope over the body, while the other has a cover which sits down on the water-table. They all have chaff-trays with burlap bottoms, though one manufacturer advises me that a super can be used if filled with chaff. One manufacturer winters hundreds of colonies—used for queen-rearing—and is a partial convert to the sealed covers. However, for fear the bees will not seal down the covers tight, he clings to the chaff-tray to take up any moisture which may escape. One of the others is irrevocably an absorbent-cushion man.

As a result of 5 years' study, during which time I made a great many hives of the chaff pattern, varying in protected space from $\frac{1}{2}$ inch to 2 inches, I found that in this climate bees will winter with but little protection more than they get in a dovetail hive, providing always that the colonies are good and strong, and they have an abundance of sealed stores, and honey is in every way better than syrup. I can not see the advantage of saving honey in the fall only to see the bees dwindle in the spring or else feed. If I find in the fall that I have weak colonies I double them up, even taking 3 and 4 colonies to make one, for I use a great many decoy hives, and have late swarms which are very small.

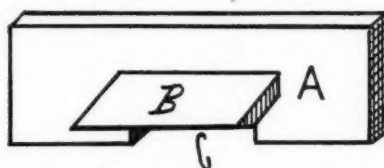
Having decided on the amount of protection my bees needed, I found that with a body of the protected pattern, with an inch of space packed with chaff, a super-cover sealed tight, a super on that filled with chaff, and over all a cover held so that it would not blow off, afforded a home for the bees which was close to Nature. The bees were dry—there was not an undue amount of stores used; the winter loss was slight, and there was no spring dwindling. I wintered bees in this way during the winter of 1909-10, which was followed by a summer-like March and three freezes in April, just when the hives were filled with brood. I had a few dovetailed hives with bees in, and June 1st there were not as many bees as in April, but in the chaff hives there was practically no loss, though the queen did quit laying, as the fruit-bloom ceased abruptly. That season I secured 60 pounds to the hive—comb and extracted honey—while my neighbors, who cellar their bees, or else winter them in dovetailed hives, reported a practical failure. I will add that I had a very short clover flow in the spring of 1910, as had many others.

I will not join in the discussion about sealed covers and absorbent cushions, for I am writing for a class that does not care a straw about it, so that they can safely winter their bees.

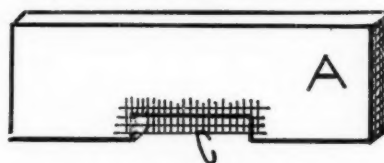
Moreover, my experience has been that with a large entrance the hive will keep dry. By "large entrance" I mean something between an opening $\frac{3}{4}$ inch wide by 2 long, and the same width by $14\frac{1}{2}$ inches long. With the arrangement I mentioned above, I have used an entrance $2 \times 14\frac{1}{2}$ inches, and in one case there was an accidental crack under the cover which the bees failed to seal, yet this was one of my very best colonies the succeeding season. I think I shall settle on an entrance $\frac{3}{4} \times 4$ inches, protected by wire-screen through which the queen can pass, and a sleet shield over that; but as this will not equal an entrance of $\frac{3}{4} \times 12$ inches, I am more likely to enlarge than reduce this. I want something



END VIEW OF ENTRANCE-GUARD.



FRONT VIEW OF ENTRANCE-GUARD.



REAR VIEW OF ENTRANCE-GUARD.

- A—Entrance-guard (block).
- B—Storm or sleet shield.
- C—Entrance.
- D—Wire-screen on inside of A and covering C.

which will invariably keep the hive well ventilated, and thus dry.

I find that all the chaff hives have one weak point, and that is, the point where the water-table rests on the top of the outer wall. In the case of the $\frac{3}{8}$ -inch outer walls this is vital, for water will seep in, by capillary attraction, while with the $\frac{3}{4}$ -inch wall larger nails can be used and a coat of white lead in the joint should seal it permanently. To make sure, however, I shall pack the inter-wall space with chaff. I put on the water-table, then turning the shell over pour in some rosin which has been tempered with a little oil to keep it from being so brittle. A few minutes' work and a cent's worth of rosin will make a joint eternally impervious to moisture.

I do not think there is any use for me to dwell on the covering of these hives as put out by the manufacturers, for I shall never use them. I do not believe absorbent cushions scientific for this location; I think a super filled with chaff all the protection needed over a super-cover sealed hermetically, as it can be by pouring a thin stream of artificial propolis around the inner edge of the water-table, and then pressing the super-cover down tightly on to it. This seals fruit for the housewife, and surely it will protect the bees. As I make it now, take a pound of rosin, pulverize it, add 2 ounces of turpentine, let it stand in a warm room until the whole mass is homogeneous, then add 2 ounces of some cheap oil—raw linseed will do; then heat it so that it will pour freely through a 3-16-inch spout.

It matters not that I do not believe in the cellar-wintering of bees, but it does that many beginners may be led to try it, not knowing that it is an art and science all by itself. The cellar must be just so, or there will not be a colony left in the spring; and I do not believe any old bee-man will find fault when I state that there is not a farm cellar in the country suitable for wintering bees. Maybe some of them can be made so, at great expense, and on account of this the beginner, the amateur, the small bee-keeper, must have some way of keeping his bees safely, and that way is the chaff hive, or some other form of the protected hive, and in the modern article the difference in cost has about been eliminated, and the weight of the lightest of the 3 bodies I mention is but 3 or 4 pounds more than an average dovetail hive. You must have supers, and covers, and super-covers, and bottoms, so all the protected hive need cost you is, as I figured before, the difference between the bodies, and that is now but a trifle, and I am firmly convinced that if manufacturers would do as they should—advise the beginner urgently to take nothing but the chaff hive body, and dovetail bodies for supers, rendering their yards flexible as between the chaff hives for winter and the dovetail for summer, if they wish—more men would keep bees, and keep on keeping them instead of commencing and quitting, for no other reason than winter loss in the single-walled hives.

I have something more than my own experience to justify my opinion about wintering bees. Among other things, Mr. Chase, of New York State, annually winters 200 to 300 colonies in single-walled hives, asking only that they be large and have abundant stores, and others I have written to, do nearly as well. But here comes in the question of location again. Mr. Chase has abundant snow—I have none to mention; he is close to large lakes, and there is probably more humidity there than here. We are both on the 42d parallel. He probably has a late flow of buckwheat—I have not; he probably uses the Langstroth hive—I was so unfortunate as to get started with the Danzenbaker, and yet, mind you, with 7-inch frames I wintered bees successfully with entrances $2 \times 14\frac{1}{2}$ inches, and got big yields the succeeding season.

To summarize: The man or woman

American Bee Journal

who wants to keep a few colonies of bees should choose the standard Langstroth hive, 10-frame; put them into a protected hive, and a Root, Woodman or Falconer will serve. I do not mention the "Champion," for so far as I know it is identical with the "Protection" put out by the Woodman Company. If, however, they wish to reduce the cost to a minimum, buy the protected body, make the joint where the water-table and outer wall join watertight by pouring in melted rosin, and, besides, laying the joint in thick white lead. The Root hive is a chaff hive, while the others are "air-spaced," though they can be packed if you wish. Put on over the brood-chamber a super wherein the ends are bound with channel irons, and seal it down as I have described, *not waiting for the bees to do it.*

You must have supers, so hang your frames up somewhere, put the super on the cover, fill it with dry chaff, or, as I lately discovered, shredded corn-stalks, and over all a flat, metal-roofed cover of the Colorado pattern. This will not blow off. Protect the hive-entrance with wire-screen having a mesh large enough to let the queen and drones pass but keep out mice, and either lean a board against the hive or else put a sleet cover on as in Fig. 1. Double up all weak colonies, leave the hive full of honey, for you can extract in the spring, or else use the combs of honey to start other colonies. The honey will surely not be wasted, and without abundant stores either your bees will perish or you will have the trouble of feeding. Later on, if you want a cellar it will be time to build it, though it does not seem economical to pay out a hundred dollars to winter the bees the average amateur will keep.

Since writing the above, Mr. Townsend's article has been printed, and I take pleasure in quoting him, as he has had experience, and what he lacked in acquiring knowledge he got by asking others. In Gleanings for Jan. 15 he says:

"* * * * * I have come to the following conclusions: As a general rule, bees in the Northern States and in Canada winter better in a cellar or in a special repository under ground where the temperature can be kept near the 45 degree mark all the time. In the States a little further south, where the bees can have a flight every 6 weeks or 2 months during the winter, chaff hives or special packing boxes * * * are better adapted to the conditions. Still further south, where bees fly every month in the year, no packing is required. * * * In a changeable temperature a chaff hive is in its glory, for where the bees can have a day for a cleansing flight every 6 weeks or 2 months, they will winter perfectly."

This agrees perfectly with what I had learned from the older bee-men in the country, but I did not like to assert too strongly, just at present, that bee-keeping is a matter of location. I have been in Iowa some 32 years, and do not remember a winter which was not "changeable." I do not believe there has been a winter in all these years in which bees could not fly every 6 weeks or oftener, and I will now add for the benefit of beginners, you understand, that in this and similar locations, bees will do better in a chaff hive than in any cellar ever made, unless it is fitted with electric thermostats, and even

then what is to be done when it is so warm for a week in January as it is as I write, that the frost is out of the

ground and bees are haunting the kitchen-door half a mile from the hive? Buck Grove, Iowa.

DR. MILLER'S



ANSWERS-

Send Questions either to the office of the American Bee Journal or direct to
DR. C. C. MILLER, MARENGO, ILL.
He does NOT answer bee-keeping questions by mail.

Over \$2,000 from 100 Colonies

It is reported that E. W. Alexander made over \$2,000 from 100 colonies of bees, in one season, as I understand. If I follow the instructions in his book do you think I can do as well annually?

SUBSCRIBER.

ANSWER.—Not by a long ways. I have done as well or better than that; but I can't begin to do it every year. And if I had followed Mr. Alexander's teachings I don't think I would have done as well. Every one must know how to do the best for his locality and conditions. Mr. Alexander was an exceptional bee-keeper, but he had also an exceptional locality, such as not one bee-keeper in a thousand has, and what succeeded with him might fail with me. But it will be a good thing for you to become familiar with what he did, and then use your judgment as to your own course.

Banat Bees in the North

1. Would Banat bees be hardy enough for Minnesota climate?
2. Where could I buy some in Minnesota, or some other Northern State?
3. Are Banat bees harder than Italian and black bees?

MINNESOTA.

ANSWERS.—1. I know very little about Banat bees, but I suppose they are equally as hardy as Italians, and perhaps as good workers.

2. I don't know, but you will probably see them advertised soon if they are to be had.

3. As already said, I know very little about them, but I think it is not claimed that they are harder than Italians or blacks.

Yellow Sweet Clover—Alyssum

1. Will the yellow sweet clover bloom the first year after sown?
2. What time of the year does it commence to bloom?
3. What is alyssum Bartonia?

SUBSCRIBER.

ANSWERS.—1. The general rule is that sweet clover grows one year, blooms the second year, and then dies root and branch. But yellow sweet clover, at least some kinds, is claimed to bloom the first year.

2. On my place the very first blossom is seen on yellow sweet clover about the first of June, and it is in full bloom a week or so later. It is 2 to 4 weeks earlier than the white kind.

3. I don't know about the Bartonia part; but alyssum is a popular low-growing plant, a profuse bloomer with small white blossoms, which is much used for borders.

Keeping Bees on Shares

Suppose A and B made a verbal contract, A to buy bees and B to take care of them for one-half the honey and one-half the increase of the bees, both to pay half the cost of material needed. B took

good care of the bees, increased from 9 to 20 colonies. Now B asks A to divide the increase before the work begins again, so B knows which colonies belong to him; but A claims he does not want to divide, as he wants half again from all last year's increase, but B claims A is not entitled to the half of B's increase from last year, as B claims the half belongs to him and not to A. Now can you or any one in beedom give B an answer through the American Bee Journal?

IDAHO.

ANSWER.—It hardly looks as if A should have any income from B's half of the increase.

Full Sheets without Wiring or Splinting—Getting Rid of Old Brood-Combs

1. Can full sheets of foundation be used for brood-frames without using either wire or wood splints? Would it sag so it will spoil the cells for brood-rearing?

2. What is the best way to get rid of old brood-combs, at the same time establishing a new brood-chamber? Would the old brood-chamber placed over a queen-excluder with full sheets of foundation be a good plan? If not, will you outline a plan that you would prefer?

WEST VIRGINIA.

ANSWER.—1. Unless the foundation be extra heavy it will be pretty certain to sag enough to stretch a good many of the cells in the upper part.

2. The plan you propose is as good as any, provided you want the bees to store honey in the combs above the excluder. Otherwise you can take away all the combs but one, and replace them with foundation.

Hive and Frames from Foul-Broody Colony

1. A weak colony died during this winter. When I examined the combs I found cells infected with foul brood. I cut the combs out and boiled them for wax. The frames I boiled also in a wash-boiler. Will they be all right to use again after this treatment, or should I destroy them?

2. The hive is a Root chaff-hive, and I would want to keep it after treating it. What is the best way to do this?

NEW YORK.

ANSWERS.—1. I don't believe there would be very much risk in using them again. Yet I think some would consider it safer to destroy them.

2. There is a difference of opinion about disinfecting hives. McEvoy, and I think most of the foul-brood inspectors say it is not necessary. Those who disinfect them throw straw into the hive and burn it, or sprinkle the inside of the hive with kerosene and burn it, or else scorch the inside of the hive with a painter's torch.

Drones Caught by Birds

Some "yellow hammers" or "high-holer" woodpeckers have been stopping around my bees all winter, and as there were many bugs about, I thought they

American Bee Journal

were after them. But lately I decided that they have gotten away with about all the drones in 70 colonies. What am I to do about it? I procured a gun, and have two birds and am looking for more. But how about the drones? Perhaps they got some of the queens, too. I am a novice at the business, having just commenced last spring with other work enough to have taken all my time. I am working the place on shares, including the bees.

NEW MEXICO.

ANSWER.—If the birds take only the drones, you need not be much disturbed. There will no doubt be plenty of drones left for all necessary purposes. It is hardly likely that queens have been disturbed. I don't know much about what these birds will do, but it has been reported that some kinds will take drones and none of the other bees.

When to Put on Supers

I see on page 181 (1910) an article on when to put supers on hives. Last year I waited for the first sweet clover bloom before putting on supers—June 13; and got left, as my bees commenced swarming May 17, and kept it up. Would it do to put on supers earlier than that, as we have fruit-trees and dandelions to work on for a month before that time?

NEW YORK.

ANSWER.—If you will look again at page 181, you will see that it is white clover, and not sweet clover that is spoken of. But that really makes little difference, for you would have been "left" anyway if bees began swarming May 17. Certainly it might do to put on supers for the fruit and dandelion bloom if you have such a yield at that time as to set the bees to continued swarming. One thing, however, must be considered. The honey from fruit-bloom and dandelion would be likely to be mixed with the later honey from white clover, and to darken the latter. Possibly it might be better to get the extra honey from dandelion honey stored in extracting-frames, or else in brood-frames, to be fed back when needed.

Queen Stings?—Bees Sweating in Cellar

1. Can a queen sting?
2. What makes bees sweat in the cellar in winter? Mine are all wet. I put them into the cellar just as they were in the summer.
3. Some of my bees will swarm 3 or 4 times. I put them in a hive, queen and all, and in an hour they will swarm again, and so on for 2 or 3 times more. What is the cause of this?

IOWA.

ANSWERS.—If you allow two queens to come together, unless one of them is pretty old, you will soon learn that they can sting, for one of them will soon be a dead queen. The strange part of it is that the victor is never injured in these duels. But a queen will never sting you. I have handled thousands of queens and I never knew one of them to make the least show of stinging. Nor will a queen sting a worker. Just once in my lifetime I knew of one exception to this rule, when I saw a queen sting a worker.

2. The moisture from the breath of the bees settles on the cold walls of the hive, just as we say a pitcher sweats when a pitcher of cold water stands in a hot and moist time and the moisture of the air settles on the outside of the pitcher. It is a bad thing to have this moisture settle on the hive-cover, for then the drops fall on the cluster of bees. The matter may be helped by enlarging the entrance, by allowing a little crack at the top for the moisture to escape, or by having some kind of warm packing on top.

3. When a swarm is hived it will desert the hive if the hive is not to its liking, and when the hive is not to its liking nearly always it is because the hive is too hot. At least for the first few days, make the hive as open as possible at the bottom, leave the cover open a half inch or so, and see that the hive is shaded from the hot sun. It will also help to hold the swarm in the hive if a frame of brood is given.

Keeping Virgin and Mated Queens—Queenlessness in March—Substitutes for Early Pollen—Bee-Feed for Fall

1. How long can you keep a virgin queen by feeding her in a queen-cage?
2. How long can you safely keep a mated queen in the same way?

What is the best thing to do if a strong colony becomes queenless about the first of March? Is it safe to send to the South for a queen at that time of the year?

4. Is anything gained in the spring by letting bees have access to rye-chop or oil-meal before they can get natural pollen?

5. Which is the better for fall feeding, bee-candy or sugar syrup?

PENNSYLVANIA.

ANSWERS.—1. and 2. I don't know. A laying queen may be kept caged in a hive or super for 6 weeks or more, but I'm afraid a virgin would not last so well.

3. Doubtful if you would have good success by sending South at that time. The best thing is to break up the colony, uniting it with one or more queen-right colonies.

4. Generally not; but there might be in a place where there is no natural pollen to be had after the weather is warm enough for bees to fly. You can tell by trying, for as soon as natural pollen is plenty, bees will desert the substitute.

5. Likely syrup; unless it be too late to evaporate and seal the syrup, in which case the candy would be better.

Pasturage for Bees—Dead Bees Carried Out in Winter—Bees Dying on the Snow

1. I have 50 colonies of bees and there is 100 acres of alsike clover within one mile, and about 200 acres of white clover, which looks well now. Is that pasturage enough for 50 colonies? I am in a locality where there are very few bees.
2. My bees had a flight 4 or 5 days this month, and they carried out young bees. Is that usual for this time of year? They are on the summer stands, and went into winter good and strong.
3. I find dead bees carried out by the bees. Is that common?
4. How soon does the queen begin to lay eggs?
5. Bees had a flight when the ground was covered with snow; they flew out and lit on the snow and perished. Is that common?

KENTUCKY.

ANSWERS.—1. I think they ought to do well.

2. It is not very common, but if the number was not large it need cause no alarm.

3. It does not often occur, and if you find a considerable number carried out by any particular colony, it is to be feared that colony is not queen-right.

4. That depends. In the cellar she does not do much before the bees are brought out, but outdoors she begins earlier, sometimes even in January. I don't know how early she does begin 'way down south.

5. Unfortunately it is rather common. Some shade the entrance at such times.

Brushing and Shaking Bees—Balling the Queen

On page 261 "Forty Years Among the Bees," you say, "Before brushing, however, most of the bees should be shaken off." Now suppose the queen was on the side of the comb at the top near your left hand in that admirable method of yours of striking the back of the hand when holding the comb with the closed fist, thus pounding the bees off the comb. What percentage of queens would be injured by such a fall? Doesn't Mr. Doolittle claim that queens are seriously injured when brood-rearing is going on at full capacity, by such treatment? I am under the impression that I have lost queens by shaking thus.

2. Wouldn't bees be too much demoralized by shaking, to ball and kill queen at that time?

3. Have you found some breeds or strains more addicted to balling than others, or is it fairly common to all?

CANADA.

ANSWERS.—1. I never knew a queen to be injured in that way. Still, that does not say it is impossible. If she should fall from the upper part of the comb and strike upon the bare floor of the hive, while the comb is held clear above the top-bars, there would be some danger of it. But that is not likely to happen. When the comb is held as high as that, the queen would fall no farther than to fall on the top-bars, unless the frames were spread apart, and if the frames are spread apart the comb is lowered between them before being pounded. Answering definitely, I should say that less than one percent would be thus injured.

2. Yes, but they would be likely to get over such demoralization pretty soon, and then kill the queen.

3. I never noticed any difference; and yet it is likely that such difference exists. I thank you heartily for your kind words.

Queenless Colony in Winter

Yesterday (Feb. 13) the bees were flying nicely, and as I cleaned out some dead bees from some of them I scratched out a dead queen—a nice big one. It looked to me as though it was an old one from last summer. Now this is one of my best colonies and Italian queen. How can I save the colony? It is too early to send for a queen—she would freeze in the mail. What would you advise me to do? Would you unite them with a weak colony? I have a few weak ones in the cellar. I have so far lost 2 colonies out of 61, but lots of time yet for losses.

PENNSYLVANIA.

ANSWER.—There is no great hurry to do anything. Likely the colony would live through till warm weather if left just as it is. But it might be a good plan to unite with a weak colony either now or immediately upon taking from the cellar. It may be well, however, to mention that there is a chance that the colony is not queenless. A young queen may have superseded the old one last fall, and the two queens may have lived together until winter, and now the old one is thrown out dead. If you think there is any likelihood of this, better wait till time for bees to fly, and then see whether brood-rearing is started.

Applying Bee-Stings for Rheumatism

O. P. Redding, who lived in this town two years ago the coming spring, was suffering with rheumatism so badly he could not work. I treated him with bee-stings, doubling the dose each week, beginning with 2 stings the first week, and so on until he had 16 stings the last week he moved away to the eastern part of Illinois. Four weeks ago his brother died here, and Mr. Redding came to the fun-

American Bee Journal

eral. I had a chance to talk with him, and he told me that soon after he moved he got well, and has not had any symptoms of rheumatism since. Now I have another patient who owns a large dry goods store in Springfield, Ill. He wants the horizontal treatment from the bee. I am hesitating a little, for bee-stings are dangerous to some people, and I might "get my foot in it" if it should work the wrong way. I thought I would better ask your advice in regard to the practice.

ANSWER.—There is no great likelihood that you will get into serious trouble applying stings for rheumatism, if you begin as moderately as 2 stings in a week.

Hiving Swarms—Feeding in Spring

1. When a swarm is hived on an old stand and the parent colony moved to new location, will any of the queen-cells be destroyed by the bees, or will this be left for first emerging virgin to do?

2. I have a choice colony which I want to stimulate, beginning early in the spring, till it swarms, hiving the swarm on the old stand; then divide the parent colony into 2 or 3 parts, giving to each part one or more of the queen-cells. Can this be done with good results? and will the small colonies build up strong by fall; that is, if the season is favorable?

3. How many days after the swarm issues should I divide?

4. Some of my colonies will need to be fed during April. Is it possible to feed a colony say 10 pounds of syrup on a warm day, by placing a pan (with float) in an empty super over the colony?

5. What thickness should the syrup be made?

VIRGINIA.

ANSWERS.—1. The cells will be destroyed after the emergence of the first virgin.

2. The probability is that feeding early in spring to stimulate will not "pan out" as well as you expect. As a rule, if abundant supplies are in the hive, the bees will build up as fast if left entirely alone, and sometimes the attempt to stimulate works just the other way. Even so, in a good season, as many as two swarms might build up into good colonies by fall. Hardly more, and the season must be good at that.

3. About 7 or 8 days.

4. Yes.

5. For that time of year half-and-half will be all right.

Doubling Number of Colonies—Jerking Supers Off

1. Can I double my colonies this spring, without buying any, and have them strong enough to go into supers when white clover comes in bloom, which, in this locality, is from June 1st to 10th?

2. If it can be done, how would you do it?

3. If the above plan is not feasible, give me your best for increasing without cutting in too much on the honey crop.

4. Can you jerk the supers clear off the Marengo bees at one yank, like they do from those Texas bees? I know from hot experience you can't do it with Pennsylvania bees. (I think I hear Mr. Scholl say it's in the "breed" of the manipulator.) When I first commenced keeping bees I tried emptying the supers of bees by shaking, then by "shooking," then smoking, then more shaking, and sweating, and frequently drop the super and "beat it" for a friendly clump of elders hard by. Now when I want to remove the super with the aid of a little smoke I quietly adjust a Porter escape, and rest while the Porter does the rest. How they do save your old back! PENNSYLVANIA.

ANSWERS.—1, 2 and 3. If you will allow me to answer your first 3 questions

in a bunch, I would say that increase must be at the cost of crop, but you may accomplish what you probably want in this way: Start queen-cells in your best colony; about 8 days later take from each colony all but one frame of brood with adhering bees, and put it in another hive on another stand, leaving the queen with one frame of brood on the old stand. Fill up both hives with frames of foundation, and a day or two later give a sealed cell to the queenless part. If you start before about the time for swarming, you will have poor queens. If you wait later you run the risk of having swarming. Yet that might not be such a very bad thing. Indeed, you might do worse than to depend upon natural swarming. Then as each colony swarms, put the swarm on the old stand with the mother colony close beside it, and a week later move the old colony to a new stand.

4. I never was very successful in shaking bees out of supers, yet I can do something at it by striking the super on the ground on one end, or rather on the lower edge of one end. But I don't often do that.

Mice in Hives—Detecting Foul Brood—Dividing for Increase—Locating an Apiary

1. On Jan. 28, 1911, I bought my partner's share of the bees, and on opening the hive I found a mouse-nest in it. I thought that very strange, having never heard of it before. Have you any mice in your bee-hives? The colony is a strong one, and I thought the bees would keep the mice out. It never destroyed any comb while it was in there.

2. The bees are in an old box-hive. I am going to transfer them in the spring. When would you advise me to do it?

3. Would you advise me to give them full frames of foundation in the brood-chamber?

4. How can you tell when the bees have foul brood?

5. Do you think it good to divide them about July 1st? I am working for an increase?

6. We have 2 lots, on one there is a peach orchard. Would you keep bees on that side, or near the house where you could watch them?

I take the American Bee Journal and think it is a fine paper for bee-keepers.

ILLINOIS.

ANSWERS.—1. Yes, indeed, I've had mice in hives, and they have not always been as considerate as yours, for they have sometimes gnawed the combs. You can keep them out by having the entrance closed with wire-cloth having 3 meshes to the inch. That will bar mice, but allow bees to pass.

2. Nowadays a favorite way is to wait till they swarm. Hive the swarm in a modern hive, set it on the old stand, and as you are working for increase set the old hive at once on a new stand. Twenty-one days from the time the colony swarmed—when all the worker-brood will be hatched out—transfer the old colony to a new hive, giving it frames of foundation, unless you prefer to cut out the straight combs from the old hive and fasten them into frames.

3. Yes.

4. By the appearance of the brood. If you find dead brood in the brood-combs it will be well to send a sample to Dr. E. F. Phillips, Agricultural Department, Washington, D. C., and he will tell you, without charge, what the trouble is.

5. Yes, or a little sooner if they have not already swarmed naturally. You can divide any time after honey is yielding well if the colony is strong enough.

6. Other things being equal, I should keep them where they are most readily seen.

Two Laying Queens in a Hive—Requeening Hybrid Bees—Sumac—Prevention of Swarming

1. Will two or more laying queens in one hive prevent swarming, as told by Alexander?

2. If so, how do you get two queens in one hive?

3. The bees won't liberate a queen from a cage as long as there is a good laying queen in the hive.

4. How would this do? Remove the queen, place a follower in the middle of the hive, with frames on either side, and introduce a queen to each side? Of course, the follower would then be removed and all passage over the tops of the frames prohibited until both of queens are released.

5. I have a colony of hybrids. I tried to requeen them but it wouldn't work. As long as there is a larva in the hive they will start queen-cells. Could I wait until brood-rearing ceased and then introduce the queen? Could I throw them on foundation and then introduce her. I know of a case of this kind where, when the queen was introduced with the bees on foundation, she was allowed to deposit eggs until there was larvae in the hive, when she was promptly killed, and the bees proceeded to rear one for themselves.

6. Does sumac yield honey? I removed some honey this season that had a greenish tinge. The comb fairly melted in the mouth. It is capped white. Could this have been sumac? The bees worked on it steadily for a week.

7. In the November issue some one wrote from New Jersey saying he had a plan for the prevention of swarming. Do you know any more about it, as to whether he gave it to some bee-paper, whether it is a success, and what paper he gave it to, etc.?

NEW JERSEY.

ANSWERS.—1. I think the plan did not pan out well afterward.

2. You can get two queens to stay together in one hive, provided one of them is quite old, by the usual way of introducing.

3. They will in this "locality."

4. It might work, but as soon as the queens got together there would likely be a death in the family, unless one of them was quite old.

5. Bees are sometimes exceptionally stubborn, but it is possible that in either of these cases there might be success with liberal feeding.

6. Sumac is a fine honey-plant in some places, but I don't know the appearance of the honey.

7. I have heard nothing further about it.

Dadant & Sons, of Hamilton, Ill., have sent us a copy of their annual catalog for 1911. It contains 52 pages, 6 of which are devoted to instructions to beginners in bee-keeping. The rest of the catalog describes the various bee-supplies they have for sale. Dadant & Sons have been in the bee-supply and comb foundation manufacturing business since 1863. In 2 more years they will have been in business just 50 years, which length of time has been represented by 3 generations of the Dadant family; and there is a 4th coming on. We congratulate Dadant & Sons on their long and honorable career, and hope that they will at least round out the 100th-year mark.

REPORTS AND EXPERIENCES



Long Winter for the Bees.

This has been a long winter for bees that are in the summer stands in this section. They have had no flight since about Oct. 20, owing to our winter beginning so early. It was nearly warm enough Feb. 25th, but the wind was so high, and the snow so light on the ground, that such bees as did attempt to fly from the few hives left on the summer stands dropped down in the light snow and were lost. The spots on the hives about the entrance show how badly they are suffering. It is cold now, with mercury down to from 5 to 15 degrees above zero.

G. M. DOOLITTLE.

Borodino, N. Y., March 3.

Bees Gathering Honey

It is warm and nice here now. Almond is in full bloom, and bees are gathering some honey now. I have 150 colonies.

I can't do without the Bee Journal.

N. J. DAVIDSON.

Dinuba, Calif., Feb. 14.

The Rainfall and Honey Crop

The following is the average rainfall during the years mentioned:

For 1910, 24.76 inches; 1902, 40.52; 1903, 39.22; 1904, 47.73; 1905, 42.55; 1906, 32.85; 1907, 37.59; 1908, 39.48; 1909, 40.32; 1910, 37.42.

For the years 1903, 1904, 1905, 1908, and 1910 my average surplus per colony was a little over 80 pounds; in 1906, 1907, no surplus; in 1909 an average of 20 pounds. With clover in good condition now, what will 1911 do?

Liberty, Mo., Feb. 14. J. F. DIEMER.

Bee Journal Cheered Him Up

I think there is no bee-paper like the American Bee Journal. I thought for a while I would quit, but the American Bee Journal cheered me up, and I had quite a success which I owe to it.

FRANK R. JOHNSON.

Kansas, Mo., Feb. 8.

Clover Protected with Snow

We have about one foot of snow, and in consequence the clover is well protected. Bees seem to be wintering all right so far.

C. A. HATCH.

Richland Center, Wis., Feb. 7.

Good Prospects for 1911

Last season was the greatest for honey in this part of Arkansas for 7 years. I got 1,000 pounds from 20 colonies, all pure Italians, mostly imported queens, and the prospects are good for a big crop this year.

A. L. THOMAS.

Lowell, Ark., Feb. 29.

Moving Bees a Short Distance

Much has appeared lately in bee-papers on the subject of moving bees. I moved some colonies last fall and had no trouble about the bees returning to the old location. The distance was only 10 or 12 rods, and I expected many to return, as the days were rather warm. Some were moved in the evening after flying was over, and some in the morning before flying began. The hives were closed so the bees could not get out, and placed on a wheelbarrow without springs. The bees got a good shaking up on the journey.

Those moved in the evening had the entrances opened as soon as placed on the new stand. Those moved in the morning were kept confined a short time, and a quart atmospheric can filled with food placed on top of the brood-frames in an empty super. The entrances were kept closed till the bees had gotten well at work on the feed, and then removed and a board leaned against the front of the hive.

EDWIN BEVINS.

Leon, Iowa, Feb. 24.

Strengthening Weak Colonies

On page 23, my method for strengthening weak colonies appeared. When I wrote the report I didn't take into consideration the fact that in my locality the bees are busy gathering from fruit-bloom. So I would caution any person not to try this method in an extensive way, when no honey is coming in.

ALFRED L. HARTL.

Elmendorf, Tex., Feb. 9.

From Coal-Mining to Bee-Keeping

As I see many interesting reports from bee-keepers from all parts of the country, I will send in mine. I have mined coal for 40 years, and began bee-keeping 10 years ago. I have 30 colonies on the public highway, the entrances all face the road, but no one has been stung. The automobiles and buggies go and come in peace. The bees have been here for 6 years. The road was opened after the bees were placed there. It is pleasant to get out of the mines in June and be among the bees. Black damps will accumulate in the mines when the air courses become clogged with slate; the fans cannot force the air through the workings until an opening is made. It is similar in the bee-hive. The air-courses become clogged up with bees so that the fanning bees cannot force the air through the hive. A strike is then declared, and the bees go out. I give them room to keep the air-courses open, and if they strike it is no fault of mine.

J. D. HARTMAN.

Williamsburg, Kans., Feb. 10.

Bee-Pasturage—Bee-Talks for Farm Bee-Keepers

Our locality is improving in bee-pasture each year. The general use of alfalfa for hay gives us a sure crop of alfalfa honey. The roads are becoming seeded to sweet clover, and alsike, and white clover is much more plentiful; some seasons our heartsease crop is fine. Last year we had good rains for early white clover, followed by excessive drouth, giving us good alfalfa pasture. Then heavy August rains gave us heartsease in abundance. The results were that almost any good colony gave 100 pounds of surplus honey.

I find bee-talks at our Farmers' Institutes something unheard of. Horses, hogs, cattle and poultry are discussed and lectured on—why can't the bee-papers outline a good talk on the main points of farm bee-keeping, that could be used by an enthusiastic bee-man in any community? We have those that could talk and answer questions in the discussion following, which would be of practical use to the farmer bee-keeper. Such subjects as the best hive demonstrated by a good hive, a good hive-stand, how to handle swarms, common mistakes in bee-keeping, when to

put on supers to keep down swarming, how to use a smoker, how to protect yourself from stings, etc., could be discussed. I am sure Dr. Miller could outline a talk that almost any of our experienced bee-men could follow with benefit to the bee and honey business.

F. B. REEVE.

Brock, Nebr., Feb. 20.

[Perhaps the reading of a good bee-book, in connection with some practical experience, would help to fit one to talk before farm bee-keepers.—EDITOR.]

A Horse in the Apiary

I enclose a picture of my horse and me, and a part of my bee-yard; also an account of taking the picture in the apiary on Christmas Day. My wife proposed to take my picture, and I wished to have it taken in the apiary among the bees, but she said I always had it taken sitting on a hive of bees, and that she wished it without the bees. So I proposed to have it taken with our faithful horse by my side, and she readily consented to that.

I got the horse, but I longed to be among the bees, so we concluded the horse would look nice standing among the bee-hives. The sun was shining bright, and there were a few bees flying, but as the bees are very gentle and do not often sting, we thought we could risk taking the horse in the apiary for a minute or two. But it was not in this case as it was with the Jay, in the description he gave in Gleanings, of himself and the different colored dogs, for in his experience the bees stung the black dog every time. It is supposed that bees are more apt to sting a person dressed in black than in white or gray.

I carefully led the horse among the bees. The horse is "dressed in white," and I in black, but as I was trying to get him in position one stung him on the nose, and he fought and backed around, and I was afraid he would upset the hive of bees, and that would have been a picture of a more lively scene than is usually seen in a bee-yard on Christmas Day. Using all the skill I could, I succeeded in getting him out of the apiary without serious trouble. The white horse received all the stings. The picture shows how a horse looks enraged with bees.

Now this lesson teaches us always to keep horses at a safe distance from the bees when they are flying.

Lytle, Tex., Feb. 17. CAREY W. REES.

Words—Apiarian and Otherwise

On page 53 of the American Bee Journal Dr. Miller replies to a correspondent ("New York"), as follows:

"* * * * * 'who write about 'shook swarms.'"

"There is, however, some warrant for 'foul-broody.' It seems to be in accord with good custom to add the termination 'y' to a disease to mean suffering from that disease. 'Colicky,' meaning suffering from colic, is an example. 'Croupy' and 'headachy' are also good dictionary words, and there are probably others of the same kind. It is a little shorter to speak of a 'foul-broody colony' than to speak of a 'colony suffering from foul brood.'"

It seems hardly possible that Dr. Miller could have written the foregoing, because like "hybrid," "shook-swarms," "semi-hibernation," and similar terms, "foul-broody" is not scientific, not warranted by the dictionaries, and has no place in good usage of the language.

If Dr. Miller will refer to the Century Dictionary, which, I think, he will admit is good authority on words and their usage, he will find that when a word is given more than one definition they are numbered, the most accepted being called 1. Coming to "colicky" he will find the

American Bee Journal

best definition is "Pertaining to or of the nature of colic, as *colicky* pains." The second definition is given as an example of an *American* colloquialism: "Afflicted with colic; subject to colic, as a *colicky* baby."

According to this, "*colicky*" does not mean having colic, but that the sufferer has pains which resemble those of the disease mentioned, which are dreadfully severe pains, while '*colicky*' pains are slight and generally transient in their character, and medical men use the word in that sense. When a person, old or young, is doubled up and howling with *colic* pains, we do not say he has "*colicky*" pains, but that he has colic. However if a person complains of fleeting pains in the abdomen we say he has "*colicky*" pains.

Now let us take up the word "brood." In the case of bees it means only "offspring; progeny," and *foul* brood refers to the condition of the brood after it has become diseased. Like "hybrid" and "shook-swarm," "foul-broody" is not a good dictionary word, is not warranted by good usage, is not good English, and there is not the slightest excuse for its use. Time is not so precious that we bee-men must have a "light year" system of nomenclature for things apicultural.

To carry the argument a little further, "croupy" does not mean afflicted with croup, except to express a simulation or a slight degree of the disease. I admit that "headachy" is a dictionary word, while not a "good" one, for it has never been used since Shakespeare's time, except poetically. It is not in common use, unless as a *Continental* colloquialism similar to "homely," meaning home-like.

There are but few words in the language like *colicky*, as *croupy*, *gouty*, *rheumy*, which last is used as is *headachy*, but where euphony will permit the terminal "y" might be used ad lib., as it is intended, as a rule, to express either the diminutive or simulation.

Like "New York," I should like to see more care used in the use of words, but what hope is there for those who write only occasionally, and without much thought, when editors will write about glass being "one of the very best conductors of heat?" See encyclopedia Britannica to the contrary; "hybrid" when they mean mixed; "shook-swarm" for a transferred colony; and last, and worst of all, "foul-broody" to tell us that a colony of bees has contracted and has the disease known as foul brood?

Please do not come back at me with examples of my bad English, for I learned some of it reading bee-papers.

Buck Grove, Iowa. A. F. BONNEY.

Experience with Foul Brood

Some of my experience you will find in the March (1910) number of the *American Bee Journal*, page 100. In this, I will give a little experience with foul brood. I had kept bees about 12 years before I saw a case of foul brood, and I had such a dread of it as a result of the information gathered from text-books and bee-papers, I supposed the best thing to do when I found a case was, at that time, to make a bonfire of the whole thing. In Eastern Kansas, in 1902, I had 20 colonies of bees, and when I opened the first hive in the spring I found a bad case of American foul brood. I regretted to destroy the colony as it contained a pure Italian queen, which I had reared the summer before, but having such a dread of foul brood, I applied the torch to the hive and burned the whole mass. Then I went through the remaining colonies and found about two-thirds of them

affected, but none so badly as the one I had burned.

After thinking the matter over, I decided not to destroy the rest, and to get a little experience with foul brood. I looked up the remedy given in "Langstroth Revised," but I decided it was too much trouble to apply the remedies given there, so I carried out a plan of my own. I put 1 ounce of crystallized salicylic acid in 8 ounces of alcohol, as recommended in "Langstroth Revised," and 60 drops of this in 4 ounces of water. Then I tied together two feathers with one quill above the other, so I could run one quill into the cells. I would run the quills into the bottle and when drawn out, turn the quill end down, and run the quill into any diseased cell I could find. The medicine would run down the quill into the cell, and at the same time I would stir the diseased mass with the end of the quill. If I found a very bad patch I would take the brush end of the feathers and brush it over thoroughly with the medicine. This will kill a few bees. Twice a week I would run through them when they were so bad. It takes careful looking and a critical eye to see at a glance any cell infected.

Later I went over them once a week, so I got through the summer without the loss of a colony with a fair crop of honey, and then regretted burning my nice queen. My bees still had the disease in fall, but I had it under control. The next spring I kept up the same treatment, but the great Kansas flood came, and took 12 of the 19 remaining colonies, and I suppose landed them in the Gulf of Mexico. I fixed up the remaining 7 hives, caught a stray swarm, and increased to 11 colonies. I would not have increased any, but I had to stack my bees on account of a flood, then when I put them on their old stands so many field-bees returned to where I had them stacked up. I put a frame of brood in a decoy hive and by this method made 3 colonies.

After I got the bees in shape after the flood, I had my first and only experience with the "swarming fever." The bees got so anxious and determined to swarm that they would swarm without even starting a queen-cell. But I kept the queens clipped, and by a good deal of trouble kept them in the same number of hives, as I had all the foul brood I cared for.

I continued the treatment as I had opportunity, as I had to be away from home a good deal of the time, but I came out in the fall with still a trace of the disease, but the biggest crop of honey I ever got in my life, as high as 125 sections from 1 colony, and 2 supers filled by the swarm I caught the 1st of June. Now I kept up this treatment until the fall of 1908, when I left that part of the country, and I took all the honey from the bees and rendered the combs into wax, and used the hives for kindling. When I did this I only found a slight trace of the disease in two hives, and the remaining 9 seemed to be entirely free.

I don't believe this method would be practical for one who had a large number of infected colonies, but to those who have foul brood, I would say, don't destroy your bees so you will be the loser. I believe if I had many colonies of bees, I would treat them thus for one season, and when they got through gathering I would then take all their honey, render the combs into wax, and disinfect the hives and start anew. I would buy a new start of bees from the sale of the honey taken from them.

In conclusion, I would say, 1910 was a poor year here for bees, and our crop of honey was light. In August I looked into a swarm my wife saved one day while I was in the field, and found what I call a nice case of American foul brood, but before I could get in touch with the

Department of Agriculture at Washington, to whom I sent a sample, the bees had so nearly stopped brood-rearing that I could not get a very good sample, and they reported that they could not make a good diagnosis of the case from the sample sent. I am now awaiting spring development of the case. It is exactly like I had in Kansas. I will try and tell how it comes out next year. E. G. HANNA.

Atwood, Ill., Dec. 8.

Bee-Keeping in Missouri

I have a communication from a subscriber of the *American Bee Journal* who lives in Michigan, who saw my article in the December number. He wishes to know something about Missouri and its resources. He says he has been a reader of the *American Bee Journal* for the past 15 years, and of other bee-papers, and has been a bee-keeper for the past 30 years; he wants to come down this way to locate. I could hardly give the resources of our diversified pursuit in one short article, but will endeavor to give some of them, anyway.

In regard to bee-keeping, I think Missouri is like many other places—it has good and not-so-good places, and also has its failures as well as successes. Some seasons many of our leading bee-keepers get bountiful crops of honey; I know of some that have secured over \$1000 to \$1500 of honey in a season, and, a few, more than that. I have also known many to get from nothing to some just a little almost every season; it depends considerably upon the bee-keeper, here as well as elsewhere; yet I have known a few seasons that surplus honey was a complete failure in many places, and, in some cases, bees have starved; yet with all this I am of the opinion that Missouri is as good a State in which to keep bees as we have.

According to the Labor Bureau, there are over 50,000 bee-keepers in this State. I do not have all the latest figures on bee-keeping in Missouri, but some years ago the products were given by the statistics thus: "Honey, 6,015,000 pounds worth over \$769,000 (a low estimate on the honey). The value of the bees was given as \$391,000, making a total valuation of \$1,160,000, and nothing said about beeswax, which would swell the figures considerably more. I am sure that with the special notice bees have had in our State the past several years, bee-keeping has advanced considerably more than when these statistics were obtained, so the industry, I should think, would amount to nearly 2 million dollars at the present time. I also think that this is a good credit to Missouri when one considers that the bee-industry in the United States is said to be a little over 20 million dollars per year.

All through the northern part of our State a great many are keeping bees, which shows that it is a good bee-country; then in the southern part of the State, where there are so very many orchards of a large acreage in many places, I would think that such would be a good place for the bee-industry. While we have some large orchards in the northern part of the State, in the south there are many more; yet I think in this part, bee-keeping, as a rule, is the best. Bees do best in the older settlements where there is plenty of white clover and Spanish needle, as these do not prevail to any great extent in new or undeveloped places, yet the southern part of the State is now very fast being occupied almost everywhere; land is yet much cheaper, as a rule, in the Ozark country than in the northern part of the State, though some land is bringing nearly as much there as here, in certain cases.

I can give no idea what the bee-industry would amount to in this State per year, if all the bees were kept on the modern plan of improved hives and fixtures, and properly manipulated, as I am sure that not one-tenth of the people keeping bees in our State do so.

Missouri is well known as a horticultural State, where grows the "big red apple." One can do that along with bee-keeping, and not only not interfere with it, but be a great help.

Then, again, the figures given on the poultry business in our State for 1909 were these: Egg output, \$22,309,507; the poultry output, \$23,493,148—total of \$45,802,655, besides the surplus feathers which were \$3,089,502, and that used in families (the amount not given), so our poultry products amount to more than twice as much as all the silver mined in the whole United States in a year. Poultry can also be carried on in connection with bee-keeping. The statistics I have given may seem large, but I could give some more of the resources of our State, but deem the above sufficient for this time, for some may think I am boasting.

We also have a much warmer climate in Missouri than in the Northern States, especially in the Ozarks, where there are only a very few days at any one time of very cold weather. Many have the idea that the Ozarks are a very mountainous country, yet in a great many places one can find as level country as anywhere, as mountainous places do not occur as often as one might think.

Mexico, Mo. J. W. ROUSE.

A Report from Ontario

The honey crop of 1910 in this part of Ontario was fair. There have been better years, but I got about 400 pounds from 6 colonies, spring count, and increased to 11. I had to double up a couple of them so that left me with 10, but I bought one colony last fall so I have 11 now.

I live here on the farm home, and work the farm, so I haven't very much time to work with the bees, but with my teacher (the American Bee Journal—and it's a good one), I do the best I can and get along very well. I use some Langstroth full-depth hives and some divisible brood-chamber hives, Langstroth size, on top and bottom, but only 5 inches deep. I am going to have all that kind next season, so I can use the same supers for hive-bodies as well. I run for extracted honey mostly, except only about 100 sections or so in a year. I ship my honey to the city, as extracted honey will ship much safer than comb, and it is more profitable for me.

There are quite a few around here who keep bees (can't call them bee-keepers), but they don't make anything out of them because they never look after them. They let them swarm all they like. Some of them catch the first swarms and let the rest go. In the fall they do the most horrible thing of all, that is, they brimstone them for their stores. If you ask them to take a bee-paper or get a bee-book, they say, "Oh, I know enough about them. There is no money in them, anyway." If they only would look after the bees right, it would pay them 100 percent. I make money on the bees. So could anybody if he went at it rightly.

My bees are all right yet, but they have lots of time to die before spring. They are on summer stands packed with the super full of leaves over a sheet of sacking over the brood-chamber, and tarred felt wrapped around them. The winter has been pretty cold and steady so far.

The American Bee Journal is a great help to me, and I wouldn't like to do without it. R. R. VICTOR TIPPETT.
Quays, Ont., Feb. 6.

PROTECTION HIVE

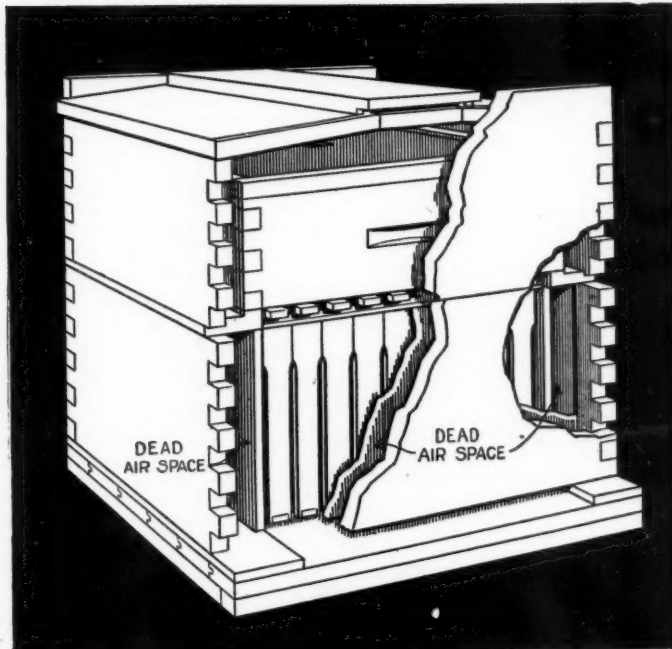
All arguments lead to a matter of protection, look where you may. Dead-air spaces or packing, as you prefer

The hive that is sold at less than the material in it will cost you at your local lumber-dealers' equally good stock being used.

Send us a list of goods wanted, and let us figure on Sections, Dovetail Hives, Foundation, and all Bee-keeper's Supplies. We will save you money.

Send for Circular showing 12 Large Illustrations.

40-Page Catalogue Now ready.



A. G. WOODMAN CO., GRAND RAPIDS, MICHIGAN

Please mention Am. Bee Journal when writing.



Established 1885

We carry an up-to-date Line of
Bee-Keepers' Supplies

Prices the LOWEST in the West. Write us for our 50-page Catalog, ready to mail you. Free for the asking. We can fill your orders promptly and satisfactorily. Our old customers know what we handle; to new ones we can say that we have

The Best Make of Supplies

hence there is nothing to fear as to quality. Send us your rush orders and get your goods before swarming-time arrives. Bees and Queens in their season. Beeswax taken in exchange for Supplies or Cash.

**John Nebel & Son
Supply Co.**

High Hill, Montg. Co., Mo.

Alsike Clover Seed

Small and Large Red, also Alfalfa Seed. Write for samples and prices. Catalog Apiary Supplies Free. All goods No.

F. A. SNELL,

2A2 MILLEDGEVILLE, Carroll Co., ILL.

THE FAMOUS Texas Queens!



Will be ready about March 1st. My

Famous Banats

are unexcelled for Gentleness, Honey-Gathering, Prolificness, and as Early Breeders. I also have the well-known

3-Banded Italians

carefully selected and bred for Business. All Queens guaranteed Pure and Free from Disease. Prices:

Untested—each, 75 cts.; per dozen, \$8.00
Tested—each, \$1.25; per dozen, 12.00

This, if you please, just paste in your hats. There are no better Bees than

My Famous Banats.

GRANT ANDERSON,

2Atf San Benito, Texas.

Please mention Am. Bee Journal when writing.

Famous ITALIAN Queens From the Sunny South

Three-Bands and Goldens bred in their purity. Hundreds of fine Queens ready March the First. Untested, 75 cts. each; six, \$4.20; one dozen, \$7.20. Tested Queens, \$1.25 each; six, \$7.00; one dozen, \$12.00.

All orders filled promptly. Address all orders to—

**D. E. BROTHERS,
JACKSONVILLE, ARK.**

2A9t

Please mention Am. Bee Journal when writing.

American Bee Journal

Wants, Exchanges, Etc.

[Advertisements in this department will be inserted at 15 cents per line, with no discounts of any kind. Notices here cannot be less than two lines. If wanted in this department, you must say so when ordering.]

FOR SALE—160-lb. honey-kegs at 50c each f. o. b. factory. N. L. Stevens, Moravia, N. Y.

SELECTED QUEENS from our honey yards, \$1; six, \$5. L. E. Kerr, Germania, Ark.

FOR SALE—About 30 colonies of bees in 8-frame hives. Gustave Gross, Lake Mills, Wis.

ITALIAN Untested Queens, 75 cents; Tested, \$1.25. Breeders, \$5.00 each. E. M. Collyer, 8A12t 75 Broadway, Ossining, N. Y.

BARGAIN.—15 10-frame hives \$1. each. Used. Other fixtures. Quantity new hives. 3A1t Rev. Edwin Ewell, 704 Elm St., Waseca, Minn.

FOR SALE—Duston White Wyandottes, \$2; 15 eggs, \$1; \$5 per 100. 11A1y Elmer Gimlin, Taylorville, Ill.

SIX PLANTS of White Sweet Clover for 25c, postpaid. Will bloom this year. Mrs. H. McMahan, Middlefield, Ohio.

WANTED—Early orders for the Old Reliable Bingham Bee-Smokers. Address, 12A1t T. F. Bingham, Alma, Mich.

ITALIAN QUEENS.—Ready in May. Untested, 65c; select untested, 75c. 3A2t S. J. Maltby, 9 High St., College Point, N. Y.

WANTED—A few more 4 and 5 year old Queens; also bees. C. O. Smith, 5533 Cornell Ave., Chicago, Ill.

WANTED—A place in a large apiary for 1911, by a Christian man 26 years old. 3A1t F. E. Osborn, 8 E. Elm St., Norwalk, Ohio.

HIMALAYA BLACKBERRY.—Strong plants of this wonderful berry sent, by mail, 6 for 60 cents; 12 for \$1. W. A. Pryal, 101 Pryal Ave., Sta. E, Oakland, Cal.

SPECIAL—800 2-story 10-frame Root Hives, new, in flat, double cover, regular, \$2.35 each; in lots of 50, at \$1.00 each. F. O. B. Jersey City. W. C. Morris, Nepperhan Hts., Yonkers, N. Y.

FOR SALE.—150 deep Extracting Frames, built 1909, on full sheets wired foundation. No disease. Will ship on approval. 20c each. Henry Cable, Rt. 1, Reynoldsville, Pa.

FOR SALE—Golden Queens that produce 50 to 100 percent 5-banded bees. Untested, \$1; Tested \$1.50; Select Tes, \$2; Breeders, \$5 to \$10 8A12t J. B. Brockwell, Bradley's Store, Va

FOR SALE.—White Wyandotte eggs, 15 for \$1.00; Indian Runner Duck eggs, 12 for \$1.00. 1 sitting, express paid, \$1.40; 2 sittings, \$2.25. 2A3t J. F. Michael, Winchester, Ind.

POST CARDS—30 for 25 cents. Beautiful, colored, embossed Birthday, St. Patrick's Day, Easter, United States or Foreign Views; Landscapes. Hahn, 254 N. 15th St., 3A1t New York, N. Y.

FOR SALE.—80-acre farm, 70 miles south of Chicago; running water; 20 acres of timber; fruit, and 1250 bearing grapevines. Cheap for cash. Wm. W. Black, 2A3t 2358 Indiana Ave., Chicago, Ill.

BEESWAX WANTED.—We are paying 30 cents, cash, per pound for good, pure yellow beeswax delivered at our office. If you want the money promptly for your beeswax, ship it to us, either by express or freight. A strong bag is the best in which to ship beeswax. Quantity and distance from Chicago should decide as to freight or express. Perhaps under 25 pounds would better be sent by express, if distance is not too great. Address, GEORGE W. YORK & Co., 117 N. Jefferson St., Chicago, Ill.

Colonies of Italian bees in L. hives, 10-fr., built on full brood-fdn., wired, body and sh. super, redw., dove, 3 coats white, sheeted lids, each neat, modern and full-stored—any time. Jos. Wallrath, Antioch, Cal. 2A1t

FINE GLADIOLUS.—Build up your collection of Gladioli by planting bulbets; they are easy to grow. 200 bulbets of a fine mixture by mail for 25 cents. About 15000 for \$1. W. A. Pryal, 101 Pryal Ave., Sta. E, Oakland, Cal.

HONEY BUSINESS FOR SALE.—Wholesale business established many years in one of our largest cities. Write for particulars. Address, Honey Merchants, care American Bee Journal, 117 N. Jefferson St., Chicago, Ill.

BACK VOLUMES OF AM. BEE JOURNAL.—We have some on hand, and would be glad to correspond with any one who may desire to complete a full set. It may be we can help do it. Address, American Bee Journal, 117 N. Jefferson St., Chicago, Ill.

FOR SALE.—500 3 and 5 Band Queens. Not Cheap Queens, but Queens Cheap. 3-Band Queens as follows: Untested Queens—1 for 75 cts.; 6 for \$4.20. Tested Queens—1 for \$1; 6 for \$5.70. 5-Band Queens as follows: Untested Queens—1 for \$1.00; 6 for \$5.70. Tested Queens—1 for \$1.50; 6 for \$8.70. Directions for Building Up Weak Colonies, 10 cts. 2A1t W. J. Littlefield, Little Rock, Ark

A WONDERFUL PHOTOGRAPH.—I have photographed a mountain range 95 miles away, beating all previous records by 30 miles. Better still, I have made a picture, a most unusual thing in tele-photography. The subject is Mount Baker, Wash., a snow-clad mountain 11,100 feet high; the point of view is Victoria, British Columbia. For beauty the scene is not excelled on earth. In the immediate foreground is a solid bank of primeval forest, then come the Haro Straits, 45 miles wide, dotted with many islands; next rise the foothills blending into the snowy grandeur of the Rocky Mountains, with Baker towering high above—a silent sentinel. I have also photographed the Olympic Mountains, Wash., from Victoria, a distance of 65 miles, again getting a picture. It took me 18 months' persistent effort to get them, but I will not bother you with my troubles. I am selling prints from the original negatives, 6x8 1/2, at \$1.50 each, but will supply the pair for \$2.00. They are printed on heavy cream paper, ready for framing. F. Dundas Todd, Market St., Victoria, B. C., Canada.

Honey to Sell or Wanted

I WANT good flavored Comb Honey in any kind of boxes; also Extracted. Give price. 3A1t O. N. Baldwin, Baxter Springs, Kan.

WANTED—White clover, basswood and amber extracted honey. Give prices and description. P. B. Ramer, Harmony, Minn.

FOR SALE.—Choice light-amber extracted honey—thick, well-ripened, delicious flavor. Price 9 cents per lb. in new 60-lb. cans. 2A1t J. P. Moore, Morgan, Ky.

WANTED—Choice extracted white and amber honey in barrels or cans. Send sample, and price delivered f. o. b. Preston. 11A1t M. V. Facey, Preston, Minn.

HONEY WANTED.—We are in the market for both extracted and comb honey. Let us know what you have, with sample of extracted honey, lowest prices f. o. b. Chicago, how put up, etc. Address, GEORGE W. YORK & Co., 117 N. Jefferson St., Chicago, Ill.

The Mercantile & Warehouse Co., 141 Moss Ave., Oakland, Calif., have an advertisement of sweet clover seed on another page of this issue. We hope that our far Western readers will send in their orders to this advertiser, and be sure to mention having seen their advertisement in the columns of the American Bee Journal.

Souvenir Bee Postal Cards

We have 4 Souvenir Postal Cards of interest to bee-keepers. No. 1 is a Teddy Bear card, with stanza of poetry, a straw bee-hive, a jar and section of honey, etc. It is quite sentimental. No. 2 has the words and music of the song, "The Bee-Keeper's Lullaby;" No. 3, the words and music of "Buckwheat Cakes and Honey;" and No. 4, the words and music of "The Humming of the Bees." We send these cards, postpaid, as follows: 4 cards for 10 cents, 10 cards for 20 cents; or 10 cards with the American Bee Journal one year for \$1.10. Send all orders to the office of the American Bee Journal.

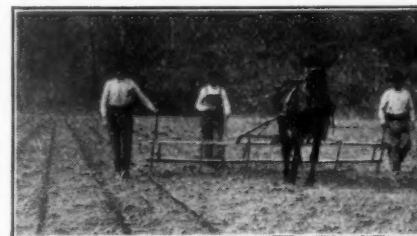
"Bee-Keepers' Guide"

This book on bees is also known as the "Manual of the Apiary." It is instructive, interesting, and both practical and scientific. On the anatomy and physiology of the bee it is more complete than any other standard American bee-book. Also the part on honey-producing plants is exceptionally fine. Every bee-keeper should have it in his library. It has 544 pages, and 295 illustrations. Bound in cloth. Price, postpaid, \$1.20; or with a year's subscription to the American Bee Journal—both for \$1.90. Send all orders to the office of the American Bee Journal.

"Langstroth on the Honey-Bee"

This is one of the standard books on bees. It tells in a simple, concise manner just how to keep bees. It was originally written by Rev. L. L. Langstroth, who invented the movable-frame hive in 1851. The book has been brought right down to date by Dadant & Sons, than who there are no better or more practical bee-keepers in this or any other country. It contains nearly 600 pages, is fully illustrated, and is bound in cloth. Every topic is clearly and thoroughly explained, so that by following its instructions no one should fail to be successful with bees. Price, postpaid, \$1.20; or with the American Bee Journal one year—both for \$2.00. Send all orders to the American Bee Journal.

Marking for Planting Strawberries.—Here is a good suggestion from W. W. Thomas, the strawberry plant man. After trying various kinds of markers Mr. Thomas says he has found the one shown in the picture the most practical, and it can be made by any



blacksmith. The rods that do the marking are steel, sharpened at the lower end. They make marks that are not easily obliterated by rain, and can be seen for several days. Any of our readers who would like further information can get it by writing W. W. Thomas, 152 Main St., Anna, Ill.

We are first hands for choice
California-grown

YELLOW BLOSSOM

Melilotus Seed

(Sweet Clover)

For introductory purposes, and that bee-men may test this valuable California product, we offer to deliver at your nearest express office, all charges prepaid by us, one 5-pound package of hulled seed (will sow $\frac{1}{2}$ acre) for \$1.25; two packages, \$2.25; five packages, \$5.00.

Samples mailed, and larger quantities quoted.

The seed is from our own harvest, is fully matured, free from noxious weed-seeds, and possesses high germinating qualities.

If you wish other California Grown Seeds, write us.

Mercantile & Warehouse Co.

141 Moss Ave.

Oakland,

California

Please mention Am. Bee Journal when writing.

Marshfield Sections Best Dovetail Hives

with Colorado Covers

Hoffman Frames, and everything pertaining to Bee-Keepers' Supplies sold at **Let-live Prices.**

Berry Boxes, Baskets, Crates, etc.
kept in stock. **Wholesale and Retail.**
Prices sent for asking.

W. D. Soper, 323 and 325 Park Ave. **Jackson, Mich.**
Please mention Am. Bee Journal when writing.

Bees for Sale

As usual, we will offer Italian bees in full colonies, and also nuclei for sale the coming season. Full colonies in 8-frame Langstroth hives, at \$7.00 each; or in lots of 5 or more, \$6.50 per colony; in 10-frame hives, \$7.50 each, or in lots of 5 or more, \$7.00 each. Three Langstroth-frame nuclei with queens, \$3.75 each; or in lots of 5 or more, \$3.50 each. Cash with order. These prices are f. o. b. cars 100 miles west of Chicago. Full colonies we expect to be able to ship any time after April 15th, and nuclei after May 10th. "First come first served." Address,

George W. York & Company,
117 N. Jefferson St., **Chicago, Ill.**
Please mention Am. Bee Journal when writing.

Queens Ready Now!

**Not Cheap Queens,
But Queens Cheap.**

Prices of 3 and 5-Band Queens.

3	Band Untested Queens, 1,	\$ 0.75; 6,	\$ 4.20
3	Tested " " " " " " " "	1, 1.60; 6,	5.70
3	Breeder " " " " " " " "	1, 5.00; 6,	25.00
5	Untested " " " " " " " "	1, 1.00; 6,	5.70
5	Tested " " " " " " " "	1, 1.5; 6,	8.70
5	Breeder " " " " " " " "	1 10.00; 6,	50.00
3	Nuclei 1-fr. with Unt. Queen		1.75
3	" " 2-fr. " " " " " "		2.25
3	" " 1-fr. " " " " " "	Test. " "	2.00
3	" " 2-fr. " " " " " "		2.50
3	Full Colony " " " " " "	Unt. " "	4.75
3	" " " " " " " "	Test. " "	5.00
5	Nuclei 1-fr. " " " " " "	Unt. " "	2.00
5	" " 2-fr. " " " " " "		3.00
5	" " 1-fr. " " " " " "	Test. " "	2.50
5	" " 2-fr. " " " " " "		3.50
5	Full Colony " " " " " "	Unt. " "	8.00
5	" " " " " " " "	Test. " "	9.50

Directions for building up weak colonies, 10 cents.

The above Queens are reared from selected Red Clover Mothers. For Gentleness, Beauty, and Good Working Qualities no better BEES can be found. Our Queens are all large, well-developed Queens, reared entirely by the BEES. We use no artificial plans to rear Queens—the BEES far better understand the job than MAN.

Dealer in Bee-Keepers' Supplies.

W. J. LITTLEFIELD,

R. F. D. 3 **LITTLE ROCK, ARK.**

Please mention Am. Bee Journal when writing.

Celluloid Queen-Buttons

These are very pretty things for bee-keepers or honey-sellers to wear on their coat-lapels. They often serve to introduce the subject of honey, which might frequently lead to a sale.

NOTE.—One bee-keeper writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of these buttons], as it will cause people to ask questions about the busy bee, and many a conversation thus started wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown above is a reproduction of a motto queen-button that we offer to bee-keepers. It has a pin on the underside to fasten it.

PRICES—by mail—1 for 6 cts.; 2 for 10 cts.; or 6 for 25 cts. Address,

GEORGE W. YORK & CO.

CHICAGO, ILL.

Please mention Am. Bee Journal when writing.

Italian BEES, QUEENS and NUCLEI



Choice Home-Bred and Imported Stock. All my Queens reared in Full Colonies.

Prices for April.

One Tested Queen...	\$1.85
Select Tes. " "	2.40
Breeder Queen...	3.65
Comb Nucleus—no queen.....	1.50

Safe arrival guaranteed.

For prices on larger quantities, and description of each grade of Queens, send for free Catalog and Sample Foundation.

J. L. STRONG,

204 E. Logan St., **CLARINDA, IOWA**

Please mention Am. Bee Journal when writing.

Langstroth on the Honey-Bee

Revised by Dadant.

Latest Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. Bound in substantial cloth, and has nearly 600 pages. Revised by that large, practical bee-keeper, so well known to all bee-dom—Mr. C. P. Dadant. Each topic is clearly and thoroughly explained, so that by following the instructions of this book one can not fail to be wonderfully helped on the way to success with bees.

We mail the book for \$1.20, or club it with the American Bee Journal for one year—both for \$2.00. This is indeed a splendid chance to get a grand bee-book for a very little money.

GEORGE W. YORK & CO.

CHICAGO, ILL.

Northern Michigan Convention.—The Northern Michigan Bee-Keepers' Association will hold its next meeting at Traverse City, Mich., Wednesday and Thursday, March 15 and 16, 1911. The headquarters will be at Hotel Whiting, where the sessions will also be held. The first session will begin at 1 p.m. on Wednesday. The program will include discussions of various questions relating to bee-keeping, marketing honey, etc. A number of prizes are offered for the best exhibits of comb honey, extracted, and beeswax. For a copy of the program and further particulars that may be desired, address the Secretary, Ira D. Bartlett, East Jordan, Mich.

North Texas Convention.—The North Texas Bee-Keepers' Association will hold its next meeting at Enloe, Delta Co., Tex., the first Wednesday and Thursday in April—5 and 6—1911. All bee-keepers are cordially invited to attend. We expect to have a great time.

J. M. HAGOOD, Pres., Enloe, Tex.

W. H. WHITE, Sec., Greenville, Tex.

Walter S. Pouder, 859 Massachusetts Ave., Indianapolis, Ind., has sent us a copy of his 1911 catalog of bee-keepers' supplies. It is very neatly gotten up, and offers a complete line of everything used in an up-to-date apiary. Mr. Pouder has been an advertiser in the American Bee Journal for many years, and is one of Indiana's best representatives of bee-dom.

Aug. Lotz & Co. are bee-supply manufacturers and dealers at Boyd, Wis. They are sending out a very neat catalog. We understand they have increased their business wonderfully during the past few years, and no doubt will be among the leading bee-supply manufacturers of this country in a few years more. We wish them every success.

MARSHFIELD GOODS

BEE-KEEPERS:—

We manufacture Millions of **Sections** every year that are as good as the best. The **CHEAPEST** for the Quality; **BEST** for the Price. If you buy them once, you will buy again.

We also manufacture **Hives, Brood-Frames, Section-Holders and Shipping-Cases.**

Our Catalog is free for the asking.

Marshfield Mfg. Co.,

Marshfield, Wis.

HAND-MADE SMOKERS

BINGHAM
CLEAN
BEE SMOKER



Pat'd 1878, '82, '92 & 1903

Extracts from Catalogs—1907:

Chas. Dadant & Son, Hamilton, Ill.—This is the Smoker we recommend above all others.

G. B. Lewis Co., Watertown, Wis.—We have sold these Smokers for a good many years and never received a single complaint.

A. I. Root Co., Medina, Ohio.—The cone fits inside of the cup so that the liquid creosote runs down inside of the smoker.

All Bingham Smokers are stamped on the tin, "Patented 1878, 1892, and 1903," and have all the new improvements.

Smoke Engine—largest smoker made.....\$1.50—4 inch stove

Doctor—cheapest made to use.....1.10—3 1/4 "

Conqueror—right for most apiaries.....1.00—3 "

Large—lasts longer than any other......90—3 1/4 "

Little Wonder—as its name implies......65—2 "

The above prices deliver Smoker at your post-office free. We send circular if requested.

Original Bingham & Hetherington Uncapping-Knife.

T. F. BINGHAM, Alma, Mich.



Patented, May 20, 1879. **BEST ON EARTH.**

Italian Queens Any Month

In the year, from my Jamacia, B. W. I. yard; from Yonkers after May 1. Italians, Cyprians, Carniolans, Caucasians and Banats. Italians—Untested, 75c; Tested, \$1.50; Breeders, \$3.00. Others 25c extra. Two 5-gallon cans, 50c; 1 gallon, \$8.25 per 100; 1 lb. panel and No. 25 bottles, \$3.75 a gross in crates; in boxes, 75c extra. Gleanings, Bee-Keepers' Review, A. B. C. and Langstroth for \$3.50; by mail, 50c extra. "The Swarm," by Matelink, by mail, 75c; regular, \$1.30. Root's supplies. Send for catalog. 3A7t

W. C. MORRIS,
Nepperhan Heights, **YONKERS, N. Y.**

SOUTHLAND QUEENS



Bred from the best Goldens. 3-Band from imported mothers. 25 years' experience as breeder. Untested, 75c each; Sel. Unt., \$1.10; Tested, \$1.25 each; Sel. Tested, \$1.75 each; Breeders, \$3.00 each. Tested Queens are mated 3-Bands. Address,
N. Forehand, Ft. Deposit, Ala.

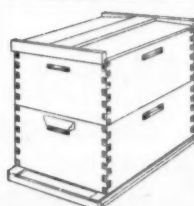
MOTT'S

Strain of R. C. Italians

Are the best. Natural 5-Banded Golden R. C. Queens from imported Italian stock. My 10-page Descriptive Price-List tells all about my bees. It is free. Untested, \$1.00 each; \$9.00 per doz. The Natural Golden R. C., \$1.10 each; \$10 per doz. Reduced rates after July 1st. See list. Nuclei, also Bees by half and pound. See list. Leaflets, "How to Introduce Queens," 15c each; also, "Increase," 15c each—or both for 25c. 3A7t

E. E. Mott, Glenwood, Mich.

Please mention Am. Bee Journal when writing.



BEE - HIVES and Supplies

at factory prices. Satisfaction guaranteed or your money refunded. Our G. B. Lewis Co's. make is best of all. This Ad. may not appear again, so just drop me a card today for my Catalog.
W. R. FREEMAN, Peebles, Ohio

Please mention Am. Bee Journal when writing.

Wanted

Fine Qualities of

White and Light Amber Extracted Honey

Send samples with Lowest Prices, f. o. b. New York. Also state how it is packed, and the quantity you have.

We are always in the market for

Beeswax

HILDRETH & SEGELKEN,

265-267 Greenwich St.,

NEW YORK, N. Y.

Please mention Am. Bee Journal when writing.

Sweet Clover Seed!

Sweet Clover is rapidly becoming one of the most useful things that can be grown on the farm. Its value as a honey-plant is well known to bee-keepers, but its worth as a forage-plant and also as an enricher of the soil are not so widely known. However, Sweet Clover is coming to the front very fast these days. Some years ago it was considered as a weed by those who knew no better. The former attitude of the enlightened farmer today is changing to a great respect for and appreciation of Sweet Clover, both as a food for stock and as a valuable fertilizer for poor and worn out soils.

The seed can be sown any time. From 18 to 20 pounds per acre of the unhulled seed is about the right quantity to sow.

We can ship promptly at the following prices for the white variety:

Postpaid, 1 pound for 30 cents, or 2 pounds for 50 cents. By express f. o. b. Chicago—5 pounds for 75c; 10 pounds for \$1.40; 25 pounds for \$3.25; 50 pounds for \$6.00; or 100 pounds for \$11.50.

If seed is desired of the Yellow Sweet Clover, add 3 cents per pound to the above prices.

If wanted by freight, it will be necessary to add 25 cents more for cartage to the above prices on each order.

George W. York & Company,

117 N. Jefferson St., **CHICAGO, ILL.**

Please mention Am. Bee Journal when writing.

Golden and 3-Band Italian Bees & Queens

From Extra SELECTED MOTHERS

Prices 1 6 12

Untested.....	\$1.00	\$5.00	\$9.00
Selected Untested....	1.25	6.50	12.00
Tested.....	1.50	8.00	15.00
Selected Tested.....	2.00	11.00	21.00
8-Frame Colony.....	6.00	33.00	61.00
3-Frame Nuclei.....	3.75	21.25	40.00
2-Frame Nuclei.....	3.00	17.00	32.00

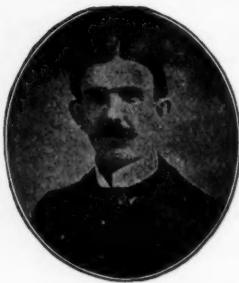
Safe arrival. I am now booking orders for early spring delivery. Twenty-two years' experience. Send your orders to—

E. A. SIMMONS,

3A7t **GREENVILLE, ALA.**

Please mention Am. Bee Journal when writing.

American Bee Journal



"If goods are wanted quick, send to Pouder"
(Established 1880)

BEE-SUPPLIES

Standard hives with latest improvement; Danzenbaker Hives, Sections, Comb Foundation, Extractors, Smokers—in fact, everything used about the bees. My equipment, my stock of goods, the quality of my goods, and my shipping facilities, can not be excelled.

Paper Honey-Bottles

for Extracted Honey. Made of heavy paper and paraffin coated, with tight seal. Every honey-producer will be interested. A descriptive circular free.

Finest **White Clover Honey** on hand at all times.
I buy **Beeswax**. Catalog of supplies free.

Watter S. Pouder, Indianapolis, Ind.

859 Massachusetts Ave.

BETTER FRUIT

The best fruit growers' illustrated monthly published in the world. Devoted exclusively to modern and progressive fruit growing and marketing. Northwestern methods get fancy prices, and growers net \$200 to \$1000 per acre. One Dollar per year. Sample copies free.

Better Fruit Publishing Co. HOOD RIVER, OREGON.

CAPON TOOLS



Please mention Am. Bee Journal when writing.

Cook's Honey-Jar.

With patent AIR-TIGHT SANITARY STOPPER is the Best and Cheapest Honey-Jar made. Sold only by

J. H. M. Cook, 70 Cortlandt St., N. Y. City.

Send 10 cents (half postage) for sample Jar, and catalog of WELL-BRED BEES, QUEENS, HIVES, etc.

The oldest Bee-Supply Store in the East. 2Atf



This Bone Cutter

produces filled egg baskets. Cuts fast and easy. Green bone, scraps from table, vegetables, scrap cake. Always ready for use. Send for catalog.

WILSON BROS., Box 814 EASTON, PA.

Practically 5 Months to Honey-Flow and the Market Bare of Extracted Honey!

These are the conditions which actually exist at the time this advertisement is written. We do not know of a car-load of No. 1 Extracted Honey to be had anywhere.

A shortage at this early date brings before bee-keepers the necessity of considering well the production of extracted honey in large quantities. To the bee-keeper who likes bees, but whose limited equipment will not permit extensive culture, a **real** opportunity is presented. **The production of Extracted Honey is only an infant industry.** More and more the public demands honey put up in this attractive form.

What do you know of producing Extracted Honey? What would you know? Are you interested enough to read a booklet on the subject we have pre-

pared for your benefit, and will send to you **free**? "How to Produce Extracted Honey" is the whole story in a nutshell. It covers the problems and possibilities from beginning to end. You ought to read this booklet if you keep bees at all.

Honey-Extractors and Supplies for Bee-Keepers

Everything in the way of Hand and Power Honey-Extractors and in the line of Bee-Keepers' Supplies is listed and described in the **Root 1911 catalog**. You ought to have a copy for ready reference—for money-saving. Send your name, ask for the free Extracted Honey booklet and New Catalog. Ask any other questions if you like.



The A. I. Root Co.

213 Institute Place, CHICAGO, ILL.

R. W. BOYDEN, Mgr.

(JEFFREY BUILDING)

Telephone 1484 North.

"GRIGGS SAVES FREIGHT"**TOLEDO**

The greatest Distributing Point in U. S.

Do you Realize this? It means something to you, **Mr. Bee-Man**

We carry the Largest Stock of of them all.

Deal with a

Practical Bee-Man

who can give you practical advice on BEES.

25 years a Successful Bee-Keeper. Try him. **Catalog Free.****S. J. Griggs & Co.,**

24 North Erie St.,

TOLEDO, - OHIO.

Successors to Griggs Bros Co.

"GRIGGS THE KING-BEE."

Please mention Am. Bee Journal when writing.

Latest Improved Supplies, Incubators & Brooders

Catalogs Free—state which.

Send 25 cts. for Illustrated Bee-book for beginners—'A gem.' Dis. for early orders.

J. W. Rouse, Mexico, Mo.

Please mention Am. Bee Journal when writing.

Bee-SuppliesWe are Western Agents for—**Falconer****"Falconer"**

—Write for Catalog.

C. C. Clemons Bee-Supply Co.

128 Grand Ave., Kansas City, Mo.

Please mention Am. Bee Journal when writing.

Queens! Queens!

Ready April 15th. Mail your orders NOW to insure your Queens when you need them.

Tested, \$1.25; Untested, \$1.00.

We breed Carniolans, 3-Band Italians, Caucasians, and Golden.

Address,

JOHN W. PHARR,**Berclair, Goliad Co., Tex.**

Please mention Am. Bee Journal when writing.

Wanted—Old Combs and Slumgum. Will work it for half and pay 30 cents a pound for your share of wax. **A. A. LYONS,** 8A12t Rt. 5, Box 88, Ft. Collins, Colo.

Please mention Am. Bee Journal when writing.

Prices of Carniolan Gray-Banded Alpine Bees.

No.	Stock and combs minutely examined regarding absolute health. No foul brood or disease of bees in the Alps.	March April May	May	June	July Aug.	Aug. Sept. Oct.
1	QUEEN, select tested.....	\$5.00	5.00	\$3.50	\$3.50	\$3.00
2	NUCLEUS, with select tested queen; weight of bees, one pound net.....	6.00	6.00	5.00	4.50	4.50
3	NUCLEUS, with select tested queen; weight of bees, two pounds, net.....	....	7.00	7.00	6.50	6.50
4	NUCLEUS, with select tested queen, 7 half frames, of German Standard size.....	....	8.00	7.00	7.00	7.00
5	MOBIL HIVE, with select tested queen, 10 half frames of German Standard size, transferred winter stock with brood and honey.....	9.00	9.00	....	....	....
6	CARNIOLAN ORIGINAL HIVE, very strong sel. tes. queen, brood, honey; will produce 2 to 3 swarms; the combs can then be cut out and transferred to mobil hives.....	9.00	9.00	9.00	....	8.00
7	MOBIL HIVE, full colony, can be opened from three sides; select tested queen, brood, honey, 17 German Standard-Vienna or Badensische half frames.....	9.00	10.00	....	....	9.00
8	QUEEN, select untested.....	10.00	....	2.00	2.00	....

German Standard half-size width, 8 1/4 in.; height, 7 1/4 in. Badensische Union half-size width, 9 1/2 inches; height, 8 1/2 inches. Vienna Union half-size width, 9 1/2 inches; height, 8 1/2 inches.

Other sizes ordered charged 10 cents a piece if not larger than these.

Safe arrival of queens, nuclei, and hives guaranteed. International postal money order with every order. Give correct and plain address. Mailed, postage free, queens and nuclei under Nos. 1, 2, 3, 8; postage or freight paid by receiver for shipments under 4, 5, 6, 7. Eventual dead queens or dead stock replaced if returned in 24 hours after arrival in postpaid package. Orders, to be effected at other times than the months above stated, will be filled, provided weather and other conditions make it possible. Write for the booklet, "The Carniolan Alpine Bees." References respecting financial and commercial responsibility of the undersigned Association can be had at every Imperial and Royal Austro-Hungarian Consulate in the U. S. of America. Orders amounting to \$50, ten percent discount; \$50 to \$75, fifteen percent discount; over \$75, twenty percent.

Special Contracts with Dealers. Write English.**The Imperial-Royal Agricultural Association, Ljubljana, Carniola, (Krain) AUSTRIA**

Please mention Am. Bee Journal when writing.

STANLEY is to the Front with BEES and QUEENS**32 Years a Queen-Breeder. My Specialty is Choice Breeding Queens.**

Choice Breeding Queens, Golden, each, \$3.00; 3-Banded Italians, \$2.00.

Golden and 3-Banded Tested, each, \$1.25; dozen, \$10.00.

Carniolan, Caucasian, and Banats, each, \$1.25; dozen, \$10.00.

Warranted Queens of the above Races, each, 75 cts.; dozen, \$7.00.

Virgin Queens of the above Strains, 25 cts. each.

These Queens are sent in a Stanley Improved Introducing Cage. These Cages are well worth what I ask for Queen and Cage.

Arthur Stanley, Dixon, Lee Co., Ill.**LEWIS BEEWARE — Shipped Promptly****ARND HONEY & BEE-SUPPLY CO. NOT INC.**

(Successors to the York Honey & Bee-Supply Co.)

148 West Superior St., CHICAGO, ILL.

Send for Catalog.

Enough said!**Increase Your Honey Crop**

By introducing some of OUR **Famous Honey-Queens.** Some of our Colonies produced 250 lbs. of Surplus Honey the past season. No better bees in the **World.** Will sell Queens the following prices, May to Nov.: Untested Queen, \$1.00; 6 for \$5.50. Tested, \$1.50; 6, \$8.50. BREEDERS, \$5.00 to \$10.00 each. 25 years' experience in Queen-Rearing.

Fred Leininger & Son,

2A1f

DELPHOS, OHIO.

Please mention Am. Bee Journal when writing.

Extra-Good Queens!

So sure am I that my Leather-Colored Italian Queens are Extra-Good, that I will guarantee them to please you, or return your money.

"S. F. TREGO:—I am very much pleased with your Queens, and you may expect more orders next season. Your Queens are the best I ever bought from any breeder in the U. S.—A. R. BRUNSKILL, Canada."

One, 90c; six, \$4.75; doz. \$9.00.

After July 1st, 70c; six, \$3.75; doz. \$6.50; 20 or more, 50c each.

No disease. Prompt shipment. 3A7t

S. F. Trego, Swedona, Ill.

Please mention Am. Bee Journal when writing.

Comb Foundation BEE - KEEPERS' SUPPLIES

It is made on new improved machines, and the Bees take to it more readily than any other Comb Foundation on the market.

Dittmer makes a Specialty of
Working Your Wax into Comb Foundation for You.

Our Wax Circular and Bee-Supply Price-List Free upon application.

Write us your wants—it is no trouble to us to answer letters.

Gus Dittmer Company, - Augusta, Wisconsin.

Please mention Am. Bee Journal when writing.



Mr. Bee-Man

We carry in stock the well-known

**Lewis Beeware, Bingham
Smokers, Dadant's Founda-
tion, or Anything the Bee-Keeper may
need. Catalog Free.**
Beeswax Wanted.



The C. M. Scott Co., 1004 E. Wash. St. Indianapolis, Ind.

Why Pay More than 25 Cents?

for a Poultry Magazine when you can get

**The National Poultry Journal
FOR EVEN LESS**

If you take advantage of this liberal offer. The NATIONAL is an up-to-date poultry paper, published monthly in honor of Her Majesty, the American Hen. Devoted to practical poultry keeping in all its branches, it will help you make more money out of your poultry. Try it a year at our expense, by sending us your name and address plainly written, and enclosing only fifteen (15) cents to help pay postage, and we will send you the NATIONAL for one full year. Address,
The National Poultry Journal, Business Office, Elkton, Va.



The Billion Dollar Hen

Yes, that is just where the chicken of today stands, and great fortunes are being made each year with only a few hens and a small piece of idle ground.

But You Must Know How.

The American Hen Magazine is the "A B C and X Y Z in Poultry." It is a poultry magazine with a regular department devoted to Fruit an Bees, and gives the Secrets of Poultrydom in plain language.

Price 25 cents a year. Descriptive Circular Free.

American Hen Magazine, Council Bluffs, Iowa.

Money-Making Pointers On Chickens— **FREE**



Our Big FREE Book, "Profitable Poultry Raising," now ready, 212 big pages, illustrated. Shows famous birds and largest poultry plants. Tells how to get hatch after hatch, 90%—or better, of strongest, liveliest chicks. Shows why it's easy and sure with

CYPHERS Incubators and Brooders

the self-regulating, self-ventilating, non-moisture, fireproof, insurable and guaranteed hatchers. Write for this free book and get all the facts. Address store nearest you.

CYPHERS INCUBATOR CO.
Dept. 83 Buffalo, N. Y.
New York City, Chicago, Ill.
Boston, Mass. Kansas City, Mo.
Oakland, Calif. 2000 Selling Agents.



ALFALFA



The largest grower of pure Alfalfa Clover, Timothy, Red, Alsike and Mammoth Clovers.

The kind the gentleman farmer and the farmer who respects his lands wants to sow on account of their absolute purity, namely 99.80 and 100 per cent. growth.

The kind America's famous agriculturist, Ex-Gov. Hoard, of Wisconsin, endorses, sows and praises.

Salzer's Seed Catalog Free

It's the most original seed book published, bristling with seed truths, and is mailed free to intending purchasers. Or remit 10c in stamps for 10 pkgs. remarkable farm seed samples, including our famous Alfalfa, Billion Dollar Grass, Speltz, etc.

JOHN A. SALZER SEED CO.
210 So. 8th Street LaCrosse, Wis.

FENCE Strongest Made

Made of High Carbon Double Strength Coiled Wire. Heavily Galvanized to prevent rust. Have no agents. Sell at factory prices on 30 days' free trial. We pay all freight. 37 heights of farm and poultry fence. Catalog Free.

COILED SPRING FENCE CO.
Box 89 Winchester, Indiana.

DUBY'S Bargain Bee - House for Busy Bee-Keepers

We guarantee safe delivery.

We guarantee satisfaction, and if Goods are not as represented I will refund the money.

We have customers all over the country, and our Catalog is yours for the asking.

EGGS in season, of the Barred and White Plymouth Rocks, and the White Wyandotte—\$1.00 per 15.

H. S. Duby, St. Anne, Ill.

References—First National Bank, St. Anne, Ill., or the bee-papers.

Standard Breed Queens!

Of the Highest Quality. Reared from our Superior Golden Stock. Will be ready by April 15th. Untested, \$1.25; 6 for \$6.00; 12 for \$10.00. We are prepared for prompt service, and plenty of Queens in their season. No disease, and hustlers for honey.

T. S. HALL,
Talking Rock, Pickens Co., Ga.

HONEY AND BEESWAX

CHICAGO, Feb. 28.—The market on honey generally is dull, especially is this true of comb, which, aside from the fancy grades, is not sought for. The clover and linden grades of extracted are very scarce and bring 10c per pound. Other white grades sell at 8@9c; amber, 7@8c. Beeswax, 30@32c. R. A. BURNETT & Co.

DENVER, March 1.—The market is sluggish. The following are our jobbing quotations: No. 1 white comb honey, per case of 24 sections, \$3.15; No. 1 light amber, \$2.63; No. 2, \$2.70. Strictly white extracted, per pound, 9c; light amber, 8@8½c; amber and strained, 6½@7½c. We pay 26c cash, or 28c in trade, for clean yellow beeswax delivered here.

THE COLO. HONEY-PRODUCERS' ASS'N.
F. Rauchfuss, Mgr.

TOLEDO, O., Feb. 21.—The demand for fancy comb honey is good for this season of the year, and finds ready sales at the following prices: Fancy, in 3-inch glass cases, 17@18c; No. 1, 16@17c. No demand for amber or off grades. Extracted is in good demand at following prices: White clover, in cans, 9@10c; amber, 8@8½c. Beeswax firm at 30@33c. S. J. GRIGGS & Co.

NEW YORK, Feb. 28.—The demand for comb honey is quiet, even for fancy and No. 1 white stock, while off grades and buckwheat are in very little demand. Our market is heavily stocked, and we will have to use all our efforts in trying to dispose of what we have on hand, during the next few months, so as not to carry any over. We quote: No. 1 and fancy white at from 14@15c per pound; off grades at from 11@12c; buckwheat and mixed at from 9@10c. There is a fair demand

for extracted; mostly for fancy goods, and same is finding ready sale at around 9c; buckwheat slow selling at from 6½@7c per pound. Beeswax steady at from 29@30c. HILDRETH & SEGELKEN.

KANSAS CITY, MO., Feb. 28.—The demand for both comb and extracted honey continues light, and the supply is not large. We quote: No. 1 white comb, 24-section cases, per case, \$3.25@3.35; No. 2, \$3.00; No. 1 amber, \$3.00@3.25; No. 2, \$2.50@2.75. White, extracted, per lb., 8½@9c; amber, 7@7½c. Beeswax, 28@30c. C. C. CLEMONS PRODUCE CO.

ZANESVILLE, OHIO, March 1.—While there is some demand for honey, the market is not active. No offerings at this time. Best grades of comb go to the retail grocery trade at 18c. Extracted is quoted at 10½c, in 60-lb. cans. For beeswax, producers are offered 28c cash, or 30c in exchange for merchandise. EDMUND W. PEIRCE.

BOSTON, Feb. 28.—Fancy and No. 1 white comb honey, 15@16c. Fancy white extracted, 11@12c. Beeswax, 30c. BLAKE-LEE CO.

CINCINNATI, March 4.—There is no change from the last quotation. Comb honey is selling slowly from \$3.75@4.00 per case. Fancy extracted honey, in 60-lb. cans, from 9@11c per pound; amber honey in barrels, from 5½@7½c. These are our selling prices. We are paying 30c cash, or 33c in trade, for choice bright yellow beeswax; the darker from 12c less. THE FRED W. MUTH CO.

INDIANAPOLIS, Feb. 20.—There is a good and steady demand here for best grades of

comb and extracted honey. Jobbing houses are well supplied, but practically none is now being offered by producers, and it is evident that there will be a shortage before the new crop can arrive. Fancy white comb is being offered at 18c; No. 1 white at 17c; extracted, 11c, with some slight reductions on quantity lots. It is presumed that producers are being paid about 2 cents less than above quotations. Producers of beeswax are being paid 28c cash, or 30c in trade. WALTER S. POWDER.

CINCINNATI, Feb. 28.—Comb honey is in fair demand, and is selling at \$3.75 per case for No. 1 white. Amber extracted in barrels is selling at 7c; in cans, 7½@8c. White extracted honey in 60-lb. cans, 9@10c. California light amber, 8½c. All grades of extracted honey are in fair demand. Beeswax is in fair demand at \$32 per 100 pounds. These are our selling prices, not what we are paying. C. H. W. WEBER & Co.

SEND FOR FREE ADEL Bee and Supply Catalog

You will save money if you buy direct from my factory. I make the finest polished Sections on earth. I want to prove it to you. Send me your order for Sections, or anything in Bee-Supplies.

45,000 Brood-Frames at \$1.50 per 100, as long as they last—size 9½ inches deep, top-bars, 19 1-16 long, V-shape, or 2-groove and wedge; or Simplicity Frames—all loose-hanging frames.

65,000 Section-Holders at \$1.00 per 100, as long as they last. They are nicely dovetailed, and are for 4¼x4¼x1½ and 4x5x1½ sections.

Car-load Section orders a specialty.

CHAS. MONDENG,
160 Newton Ave., N.,

3A6t MINNEAPOLIS, MINN.
Please mention Am. Bee Journal when writing.

Get This Extra Discount !

No bee-keeper can afford to ignore our early-order appeal. Past experience must have shown you that it does not pay to wait until the honey-flow is on to place orders for bee-supplies. The prudent bee-keeper does not delay. Not only does he anticipate his requirements for the coming season, but he seeks to save the 2 PERCENT DISCOUNT ON MARCH ORDERS we now offer. If you get your goods early you will avoid the rush of the busy season later on, and you can really buy to better advantage now than at any other time during the year.

You may order your goods now and have them come later on, or we will ship at once and you will have time to get them ready for the harvest next spring at your leisure. We are always glad to make suggestions and quote prices on any list submitted. If you have never bought supplies from us, try us this season and see if you do not agree with us that we furnish the best bee-supplies made, and give you the best possible service. It means a good deal to YOU to get the best of goods and service for YOUR money. We give you both. Try us.

Poultry Supplies

A special catalog of these goods, which we will gladly furnish free upon request.

C. H. W. Weber & Co., Cincinnati, Ohio.

2146 Central Avenue,

Remember Cincinnati

There are good reasons why it is to your advantage to order your supplies from us. LOCATION, which means prompt service and low freight and express rates; OUR STOCK, the largest in this vicinity; OUR EXPERIENCE—these are a few you should carefully consider. You will indeed do well if you REMEMBER WEBER, CINCINNATI.

Be Sure You Have Our New Catalog !

This is the complete book of bee-keepers' supplies. In it you will find conveniently arranged and clearly described every thing from A to Z in the way of appliances for successful bee-keeping. Many new supplies are listed this year, and changes in former goods have been made so it is essential that you should order from our newest catalog. Of course, you are entitled to a copy. If you have dealt with us in past seasons, one has been mailed to you without suggestion or request from you, but this may have gone astray. Do not lose time in telling us if you are without our money-saving price-list—we want you to have a copy every year.

IT PAYS TO USE
DADANT'S FOUNDATION

DADANT & SONS,
HAMILTON, ILL.

The Business Center of the Middle States is

CHICAGO

The Center of Chicago is the

W. T. Falconer Mfg. Co.

117 North Jefferson Street.

Ours is "the **only** bee-supply house in the business section of Chicago." The location is not only the most convenient for those who call for their goods, but our proximity to all the railroads and express companies places us in a position to give the best service which bee-keepers in the Middle States have ever enjoyed. Your orders will be sent by mail, or forwarded by freight or express the same day received.

"**falcon**" quality Hives, Sections, Foundation, Smokers, Extractors, have never been equaled by any other make. Why buy others when they cost no more, and you can get them with such prompt service?

Have you read the "**falcon**" Thermometer offer on the 4th page? If not, turn to it. Send for particulars. Ask for a copy of our "Red Catalog."

W. T. FALCONER MFG. CO.

117 N. Jefferson St., CHICAGO, ILL. George W. York, Office Manager. Factory: FALCONER, N. Y.

